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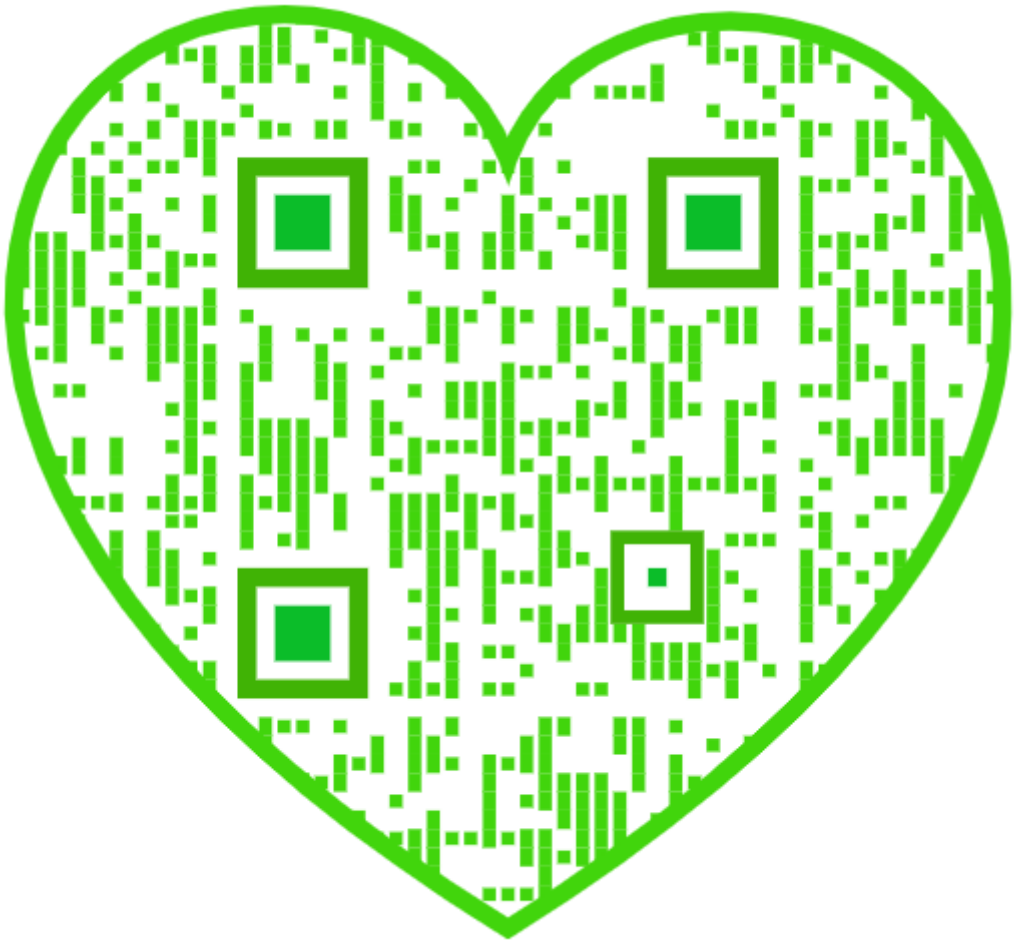
PRACTICAL BASKET MAKING

GEORGE WHARTON JAMES



Practical Basket Making

PRACTICAL BASKET MAKING

(NEW EDITION. ENLARGED AND REVISED WITH NEW ILLUSTRATIONS.)

—BY—

GEORGE WHARTON JAMES

AUTHOR OF

HOW TO MAKE INDIAN AND OTHER BASKETS; INDIAN BASKETRY; THE INDIANS OF THE PAINTED DESERT REGION; IN AND AROUND THE GRAND CANYON; THE BLANKETRY OF THE INDIAN; THROUGH RAMONA'S COUNTRY; WHAT THE WHITE RACE MAY LEARN FROM THE INDIAN; THE WONDERS OF THE COLORADO DESERT; THE HEROES OF CALIFORNIA; THE PREHISTORIC CLIFF DWELLINGS OF THE SOUTH-WEST, ETC., ETC.

GEORGE WHARTON JAMES

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Fig. 1. A Mono Basket Maker in the Yosemite Valley.

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Fig. 2. Fine Baskets of Klikitat Weave.

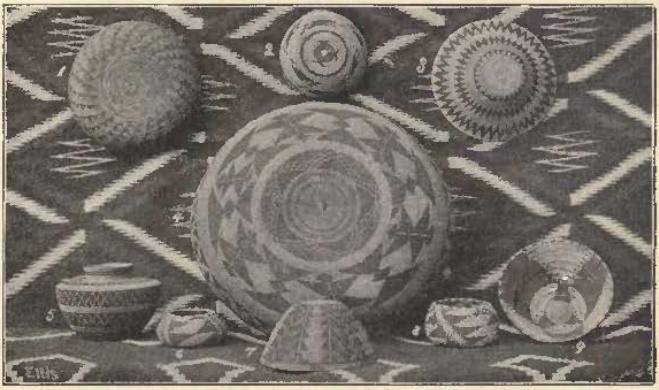

Fig. 3. Fine Baskets of Various California Weaves.

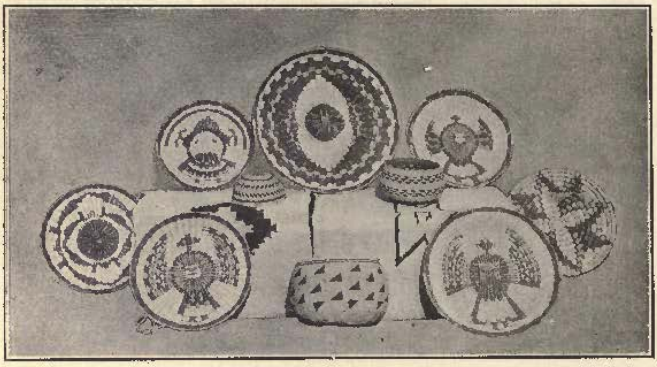

Fig. 4. Katchina and other Placques of the Hopi. In the Collection of the Burns Indian Trading Company, Los Angeles, Calif.

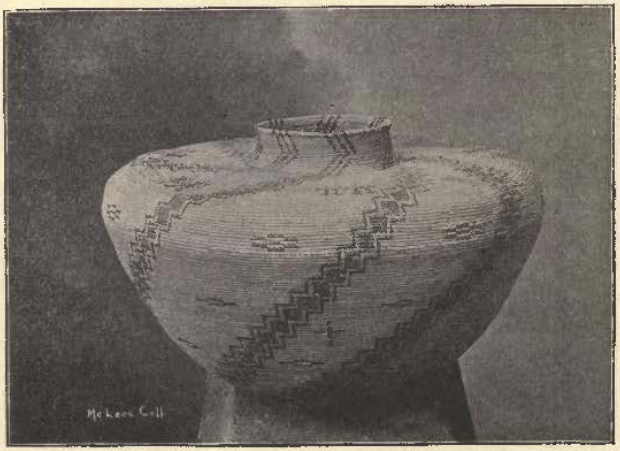

Fig. 5. The Celebrated Twelve Apostles Basket. In the E. L. McLeod Collection, Fresno, California.

INTRODUCTION.

For some years interest has been growing in the subject of Indian Basketry. White women have learned to appreciate these artistic creations of the aboriginal woman's brain and fingers, and with the appreciation has come the creative desire to make something akin to her work. Hence for the past few years the art of fine basket weaving has become a distinctivly American occupation. It has also been introduced into the schools of the country with great success. Children thoroughly enjoy the work, and thereby their creative powers are called upon as well as digital and manual dexterity gained.

There are a score or more of types of baskets made by the Indians, but the white woman's endeavors are less ambitious. She confines herself mainly to reed, willow, raffia, pineneedles, etc. The raffia baskets are by far the most popular, this material easily lending itself to imitation—both in color and appearance of weave—of the rare Indian baskets the connoisseur prizes so highly.

In this book I have presented a course of lessons in these varied materials, which, if followed, will enable the tyro to make useful and beautiful baskets, etc.

The title of the book is self-explanatory. It is a "Hand-Book of Practical Basket Making." It lays no claim to teaching everything that is to be known of the art, for such a claim would be preposterous. It does claim, however, to teach *practically* what the basket weaver wishes to know. Some of the lessons have been personally prepared by the best known teachers of New England. Some of the sample baskets were made in a prize competition offered by the editor of THE BASKET, and the instructions were written by the weavers themselves.

Everything has been carefully considered, and it is confidently asserted that if those who wish to teach themselves basketry will follow the instructions given they will surely succeed *without any other teacher.*

In this new edition the book has been carefully revised, and enlarged with many new models,—with illustrations and descriptions. With the author's "How to make Indian and other Baskets," and "Indian Basketry," the practical weaver, however ambitious, will have suggestions that will keep her busy for a lifetime, though as I have stated above, any fairly self-reliant weaver may begin to weave pretty and useful baskets at the very commencement of her endeavors.

GEORGE WHARTON JAMES.

1098 North Raymond Ave.,

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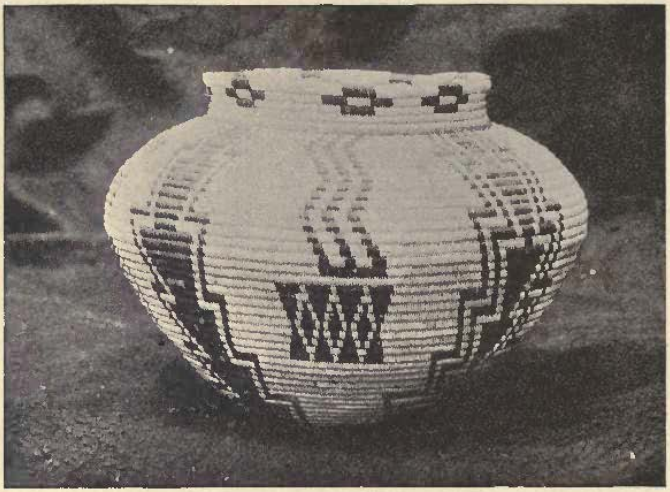


Fig. 7. Shoshone Basket. In collection of E. Mehesy, Jr., Los Angeles, Cal.

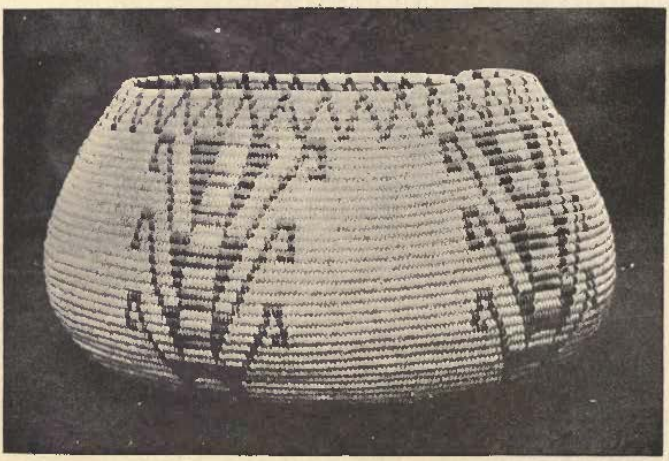


Fig. 8. Southern California Mission Basket. In collection of E. Mehesy, Jr., Los Angeles, Cal.

A FEW GENERAL HINTS TO BASKET WORKERS.

Clean raffia as soon as bought by soaking in tepid water for over an hour.

Rinse well by sousing up and down.

Hang up at the large ends to dry.

Blunt needles are generally better than sharp. Thread needles with the dark and hard end of raffia. In sewing keep raffia of one width as far as possible. On the evenness of the raffia stitches the beauty of the basket largely depends.

In sewing, move needle as often as possible. The eye is liable to shred the raffia.

Dampen the raffia frequently while working.

Take out the twist of raffia as you sew.

Take a step at a time and do that well.

Be sure you know what you are going to do next before you proceed.

Make haste slowly until you have learned how.

Copy a simple basket first.

Make your first basket without any color or design in it. Aim for perfect stitch and perfect shape.

In your second basket keep all you have learned and introduce one color only.

Never use high colors.

Vegetable dyes are always the best.

The most precious Indian baskets have only the softest tones and shades.

Do not be a pedant and spell raffia, *"raphia."*

Raphia is the botanical, technical name. Raffia is the common, every-day people's name.

When weaving with raffia keep the fingers slightly moistened. This prevents the catching of the edges and also improves the appearance of the raffia.

Before making a basket read what Mrs. Jones says of the *coil button*. It will help you to begin well.

After soaking your reed be sure always to dry it well with a cloth. Otherwise it will shrink when dry after weaving, and thus leave the coiling weave loose and unsightly.

MATERIALS FOR BASKETRY.

Imported Materials.

It is well for the weaver to know something of the materials she is to use. They are of two classes, imported and native. Raffia and rattan are both imported. The following account of rattan was written by Mr. M. Hollander, the maker of many of the Model Lesson Baskets of these pages.

Reeds are manufactured from rattan. Rattan grows best in quality and abundance in the East Indian Islands, where the annual rainfall is one hundred and twenty-eight inches. Rattan is cylindrical in form and jointed. It grows wild in the jungles, twining about the trees and hanging from the branches in beautiful festoons.

The length to which it grows is given by different authors as being from fifty to five hundred feet; but the longest specimens that I find any authentic record of are two specimens that were on exhibition at the Paris Exposition in 1855. One of these was two hundred and thirty feet and the other two hundred and seventy.

Some years ago some enterprising men undertook to cultivate rattan, and met with success. Long clearings, 12 feet wide, were made leaving a strip, next to the cleared one, and of about the same width, in the natural state. Next to this another pair of cleared and uncleared strips and so on.

The seed of rattan, which is about the size of a pea and black in color, was planted at equal distances on the edge of the cleared strip close to the wild strip towards the sun. This left a space between the rattan plants and the wild strip on the opposite side, wide enough for the men and their teams to drive in to cut and gather the rattan when ready. Trees were left in the uncleared strip, so that as the rattan grew it might have something to climb. It grows always towards the sun.

Only one shoot grows from the seed, and this first shoot is allowed to grow for four years, when it is cut close to the ground, and from that one plant as many as three hundred shoots will spring up. These are cut every year. Large, beautiful leaves, that always face the sun, grow where we see the joints in the rattan. Little fibres grow out from those same joints by means of which the rattan plant makes itself fast to the trees, and its hold is so firm, that when the plant is cut it requires the strength of from two to five men to pull it down. Rattan comes to us stripped of its leaves and tied in bundles of convenient length for shipping and handling.

It is estimated that the revenue from cultivated rattan is from $350 to $450 per acre.

Reeds were first manufactured in this country about fifty years ago. Seating cane is made from the outside of the rattan and the reed is made from the inside—the pith of the rattan. The sizes into which reeds are cut are from .00—about the size of common thread—up to No. 10.

NATIVE MATERIAL.

The North American Indian is the greatest and best basket maker in the world. Eastern readers must not suppose by this I mean the weavers of the sweet grass and splint baskets, with which they are familiar. I mean the Indians who weave such baskets as are pictured in these pages. They found all their material near to their native homes. Surely the civilized American can do the same. There is endless variety and it is all waiting to be utilized. In THE BASKET for July 1904, is the report of an interesting meeting of the Primitive Arts Club, held in Brooklyn, one department of which devoted considerable attention to this subject of native material. Chief of these is *the willow*, of which Dr. F. Schuyler Matthews thus writes in "Familiar Trees and Their Leaves."

"*Crack Willow* (Salix Fragilis).—One of our largest willows—the crack willow—came to us from Europe. It has become extensively naturalized. Its twigs are largely used in the manufacture of baskets. It was imported in the especial interest of basket manufacturers before the Revolutionary War.

"This willow grows 50 or 75 feet, and, under favorable conditions, 90 feet high. It has too often been displaced by the weeping willow as an ornamental tree, whose conventional and sober aspect is a poor substitute for the cheerfulness and vivacity of the other tree with its scintillant foliage. The crack willow may be identified by its shining leaf, which has two tiny excrescences at the base just at the junction with the leaf stem, and rather thick, fine teeth. The under side of the leaf is whitish and smooth. The twigs are yellow-green, polished, and very brittle at base; hence the name."

To show that care must be exercised to find out the best time for gathering I give herewith what one member of the Basket Fraternity writes. She says:

"I have had experience with willows. I gathered some in *November*, and, after hard labor, got them peeled and scraped. Then I began to work them and——completely failed. They were altogether too 'snappy'; no, 'cracky.' Later, I asked an old German woman, whose husband had been a basket-maker, about them. She told me, what I suspected, that they must be gathered when they were 'vet'; that is, while the sap was in them. That would be early in the season, or in August. I imagine to gather in August the summer's growth just past would be about right."

August is the best time to gather. They are prepared by boiling or steaming the twigs, thus making the bark more easily removed. Strip this off without scraping. It is well to go to some old-fashioned basket-maker's shop and learn his methods.

The willows are made into splints by the Indians, who split them with their teeth and then draw them apart with their fingers.

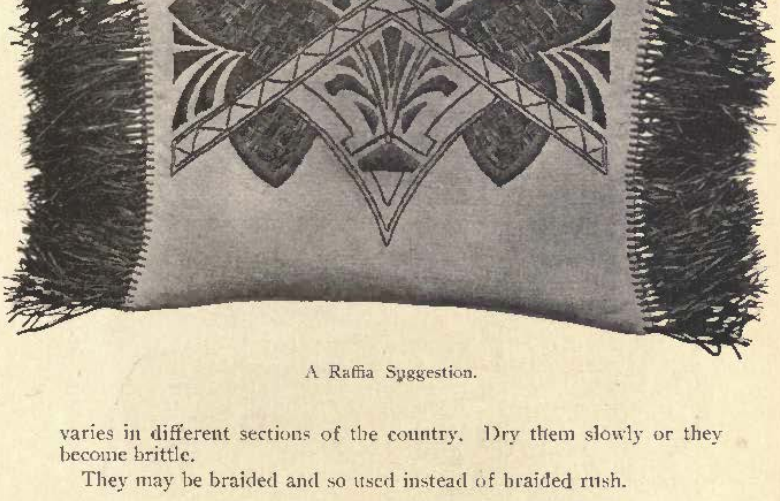
Wood Splints or Flats.—These are made by the Indians and also by machinery. The latter can be purchased in long, wide strips, and then cut into any size desired by the weaver.

Fig. 9. Corn Husk Poppy Basket, made by Miss Margaret C. Whiting, Deerfield, Mass.

Corn Husks.—These have been woven into baskets by many ingenious weavers, as will be seen in Fig. 9. Some of the inner husks

have beautiful colors, as reds, purples, pinks, pea green and dark yellow. These may be used for overlay ornamentation as in the Klikitat weave, or for inner coil material.

Cattail.—The cattail or bullrush (scirpus) of different species may be largely used in basketry. The special kind (S. lacustris), whose tall, smooth, bluish-green, round stems are seen projecting above the water in lakes, ponds, pools and rivers, dries well and is excellent for many purposes. In California the Scirpus Tatora is called tule, and the root of this has a cuticle of a rich brown color, which is used by the Cahuilla Indians as wrapping splint for their coiled ware. The ordinary cattail should be gathered before they mature, a time which



A Raffia Suggestion.

varies in different sections of the country. Dry them slowly or they become brittle.

They may be braided and so used instead of braided rush.

Sweet Grass is largely used in some parts of the United States and Canada for the making of simple and pretty baskets. It is properly Zostera, a type of a tribe of aquatic plants which grow immersed in shallow bogs and other waters. It is braided and used largely in this fashion.

Maiden Hair Fern Stem.—All lovers of the fine basketry of Northern California know the rich black wrapping splint of the twined basketry. This is the stem of the *Adiantum pedatum*, the maiden hair fern. The black is glossy and unfading and the most perfect black known, surpassing even the *martynia*.

Grasses.—Many kinds of grass may well be used in basketry. For instance, the swale grass, of which Fig. 54 is made. These can be combined with reeds and raffia and most pleasing results obtained.

Fig 10. Model No. 1. Scrap Basket or Flower Pot. Made by Miss Mary L. McIntyre.

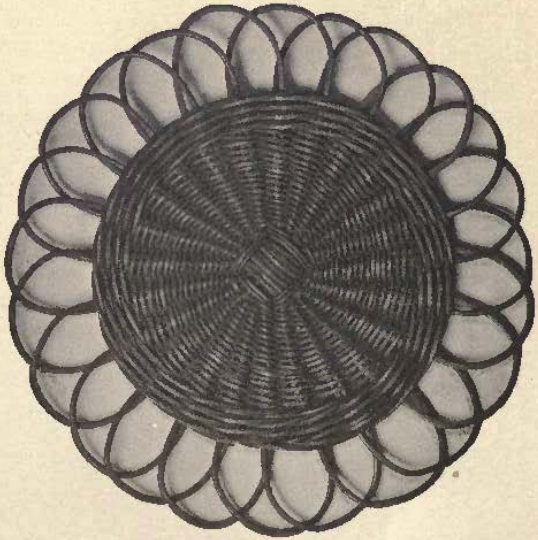


Fig. 11. Model No. 2. Mat. Made by Miss Mary L. McIntyre.

MODELS FOR REED BASKETS.

In teaching basketry as in teaching anything else experience counts for more than theory. I have, therefore, had some of the best teachers of the country arrange this model set of lessons and make the models accompanying them that future students may have the benefit of their experience. Follow this order and you will find a distinct development of your own power along what experience has demonstrated to be the right lines. Those who have used these models find that both teachers and those who wish to teach themselves basketry have in them all that is essential to a practical knowledge of this kind of work. Stick to these models and you will make better looking baskets than if you undertake to follow your own untrained wishes.

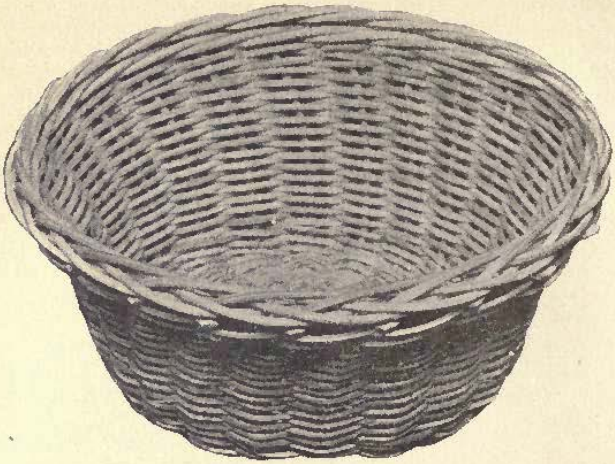
MODEL NO. 1.—SCRAP BASKET OR FLOWER POT.

The basket shown herewith makes a very useful plant-pot. It will wear for years, is not as expensive as pottery and if well made is pleasing. It may also be used as a desk scrap-basket, and whether stained to match the desk or left in its natural color will be equally pleasing.

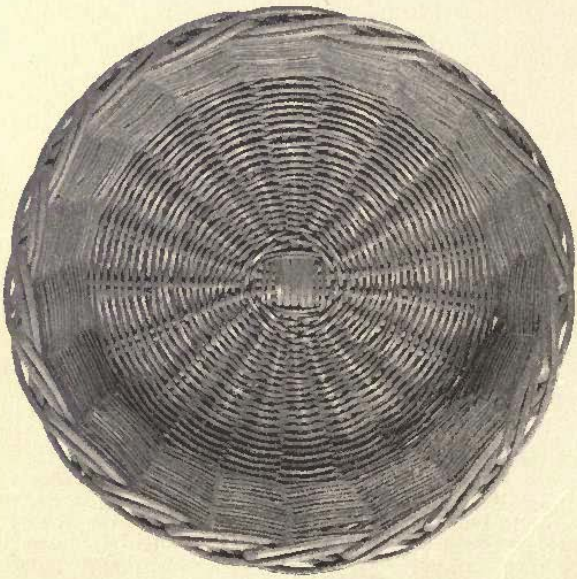
For this model, you will require a wooden disc or basket-base six and a half inches in diameter through which have been bored twenty-one holes, one-quarter pound number five reed, one-quarter pound number three reed and some good glue.

Let me here say a word in regard to the size of reeds, as later in the course much will be said about reeds of various sizes. The lowest number indicates the smallest size. For instance, number one reed is very small, number two is medium size, while number three is coarser, etc.

First step—Note that the basket base has twenty-one holes, hence twenty-one stakes or pieces of number five reed fourteen inches long must be cut. Take special care to cut one end of each reed perfectly straight across. Having cut all the reeds, immerse them for a few minutes in tepid water and straighten. Dip the blunt end of one of the reeds into the glue, taking care to get just enough glue on the reed to hold it firmly after it has been forced well into the hole in the basket base. Repeat this operation until all of the holes have been staked with reeds which make the sides of the basket. In working reeds remember to keep them well moistened.



Spool Basket.
Fig. 12. Model No. 3. Made by Miss Mary L. McIntyre.



Reed Work Basket.
Fig. 13. Inside of Model No. 4. Made by Miss Mary L. McIntyre.

The second step is known as triple twist. Select three number three reeds for weavers. Dip them in tepid water until well moistened. The three weavers are now placed behind three consecutive stakes and will project outward to the right. The first two weavers are named respectively, the left-hand weaver and the right-hand weaver. Take the left-hand weaver, bring it to the right over the other two weavers and in front of two stakes, back of one stake, and out in the next open space at the right of the right-hand weaver. The weaver which was the middle one before, now becomes the left-hand weaver and in its turn is treated exactly as the first left-hand weaver. Continue this weaving four times around the basket, then bring weavers inside the basket and cut them off.

Third step—Select a number three weaver, moisten and start single weaving on the opposite side of the basket from where was finished the triple twist. This is done by placing a weaver behind any given stake, allowing the weaver to project outward to the right. Bring the weaver to the right in front of one stake, place inside the basket and out back of the next stake. Repeat this operation for five and one-half inches in height using extreme care that the stakes slant slightly outward. Keep in mind the picture of an ordinary flower-pot. To join a new weaver, leave the end of the old weaver inside the basket and slip a new weaver in the same space where the old weaver would come out and continue the weaving.

Fourth step—Repeat the triple twist, working five rows at the top of the basket.

Fifth step—Wet the stakes as before until they will bend easily without breaking. Point stakes very sharply with cutting pliers. Take any given stake, bring to the right in front of two stakes, push it down firmly beside the second stake until it makes a scallop one inch high from the top of triple twist. Repeat this process with each stake until all have been turned down. Take a piece of one-quarter inch wide flat reed and tack around the base.

Sixth step—Coat the basket by making a mixture of one-third white-shellac and two-thirds wood-alcohol, apply with brush. This will make the basket glossy and firm. If colors are desired, apply ordinary wood stains.

MODEL NO. 2.—MAT.

Made by Miss Mary L. McIntyre, of Boston.

The next model is a mat (see illustration). In making this we will proceed from the known to the unknown. You have already learned how to weave a basket, and the mat is equally as simple when once you have mastered a few points. You may at first be confused by the number of reeds with which you are to work in making this mat, but follow the directions closely and bear in mind that you are preparing yourself for future models. All baskets must have a base, and all round bases are made more or less alike, therefore, remember when once you can "open a good center" and make a good mat, the question of the basket base will take care of itself. This is the first requisite to good basketry so do not give up at trifles. If the first attempt is not satisfactory, try again, and you will be well repaid for your effort.

First step—Cut twelve pieces of number three reed sixteen inches long, moisten well and straighten; find the center of six reeds, pierce and slip on the awl. Move the awl to the right and left a few times making an incision about half an inch long in the six punctured reeds. Point one end of each of the remaining six reeds and slip through the incision in the punctured reeds withdrawing the awl after slipping through three or four reeds which will make space for the remaining two reeds. Be sure the reeds are all the same length from the center. The cross pieces are now held firmly in place and you are ready for weaving. Note you now have four sets or quarters of six reeds which are to form the stakes of the mat. The punctured reeds should be held in a horizontal position while the inserted reeds will be in a vertical position.

Second step—Select a very pliable number one (fine) weaver, moisten well and double so as to form a loop nearly in the middle. Hold one end of the loop firmly in the left hand and twist or roll the other end to keep the reed from breaking. Place the twisted loop over the set of six inserted stakes. Here, again, we must name our weavers, namely, face-weaver being the weaver toward you and the back-weaver the underneath weaver. Bring the face-weaver to the right across the front of the six vertical stakes and down between the first and second quarter UNDER the back-weaver, bring the back-weaver to the right back of the vertical set of six stakes and upward crossing the face-weaver in the same space. The cross-pieces or quarters are now revolved from right to left bringing the left hand forward to the right, one space or to the next quarter of six stakes. Note you have encircled one set of six stakes, and repeat this process of weaving until you have encircled the four sets or quarters of six stakes twice around taking extreme care that the weavers cross each other on the down and up strokes in the SAME space.

Third step—Moisten the work and repeat the same method of weaving, working over two stakes once around the mat.

Fourth step—Continue exactly the same method of weaving, separating each stake carefully. Care also should be taken that the stakes radiate at equal angles, the weaving be close and strokes lay parallel. Continue this method of weaving (which is called pairing) until the woven diameter of the mat is four and one-quarter inches.

Moisten the work well and bring the two weavers to the front in each of two consecutive spaces. Introduce another weaver in the next space and weave four rows of triple twist by bringing the left-hand weaver to the right in front of two stakes, back of one stake and out in the next space. The second weaver now becomes the left-hand weaver and is treated exactly the same as the former weavers. After weaving four rows of triple twist, bring all of the weavers to the front of the mat and cut them off, leaving ends about three inches long and fasten as follows. Take the left-hand end, bring to the right over two stakes and tuck under one row of weaving, leaving end at back of mat. Repeat this process with the remaining two ends.

Fifth step—Moisten mat and lay on flat surface. Even the spaces by slipping the awl carefully beside each stake changing the

position to the right or left as necessary. Point the ends of the stakes sharply, leaving ends five inches long. For the border, which is to complete the mat, take any given stake, bring it to the right, back of two stakes and over one stake and slip down by the side of the third stake until the arch of the scallop is one and one-quarter inches deep from the top of the triple twist. Repeat this operation with each stake. If you find difficulty in slipping the stakes down, open the spaces by slipping the awl beside each stake. When the mat is finished, it should form a true circle. Clip all ends closely at the back of the mat. This model will be found useful by all housekeepers as a table mat, etc. In fact, it will serve as a nice mat for the basket just finished (model number one). A Whisk Broom Holder may be made by making two mats having one slightly larger than the other. The smaller one should be curved slightly outward, and placed in front of the larger mat and tied together firmly with bits of raffia or ribbon through the scallop at the right and left sides. Make a hanger about twenty inches long by braiding strands of raffia and fasten by tying through the scallop on both sides.

Finish—The mat may be left in its natural color by giving it a coat of shellac with wood alcohol or it may be stained with wood stains to any desired color.

Reed Work Basket. By Mary L. McIntyre.
Fig. 14. Model No. 5.

MODEL NO. 3.—SPOOL BASKET.

Take 10 stakes No. 3 reed 20 inches long and pierce 5 with an awl, leaving 5 stakes on the awl, then slip the other 5 stakes through this puncture. Now open the center just as is done in the mat (Model No. 2) and weave 3½ inches. Immerse the base in water and bend the stakes flatwise upwards with a pair of flat pliers. Slant the stakes backward a little and weave as in single weaving by going over one and under one with a No. 1 weaver until you have woven 2¼ inches. Now insert three weavers in three consecutive spaces and weave with the left hand weaver in front of 2 stakes and back of one stake. Care should always be taken to use the left hand weaver. This particular weave may be called the "Wale." Do 2 rows of wale, leaving the ends on the inside of the basket.

Now you are ready for the border. Take No. 1 stake and bring down to right back of 2 stakes in front of 2 stakes and back of 1 stake, leaving end outside. Take No. 2 stake, bring forward to right, back of 2 stakes, in front of 2 stakes, and back of one stake. Drop one outside and so on until you have used the entire number of stakes. In finishing the border great care should be taken to keep the stroke started in the border.

MODEL NO. 4.—WORK BASKET.

This basket is started with 10 spokes cut 9 inches long of No. 4 or No. 5 reed. You should puncture your reeds and open the center exactly as given in the mat (Model No. 2), weaving 6¼ inches for the base of the basket. You have 19 spokes in the base, so you should now cut 38 pieces of No. 4 or No. 5 reed (whichever is used for your basket). Cut these pieces 15 inches long. The stakes should be put into water for a few minutes in order that they may become softened. Now cut off the end of a spoke in the base and insert a new spoke beside each spoke in the base of your basket. *Cut only every other spoke* in the base until you have slipped in a new stake, as otherwise the weaving will slip off. After the stakes are inserted for the sides of your basket, bend the stakes flatwise upwards with a pair of flat pliers. Care should be taken that the bend comes close to the weaving of the base, otherwise your basket will not be firm on the base.

Here we would ask you to look at any basket which you may find handy which is woven of rattan or willow, and if you notice the edge carefully, you will notice a twist or roll which follows around the entire basket. This is called the "upset" and is the next stitch to be used on your basket where the sides are inserted from the base. This particular stitch is used for strength and finish between the base and the sides of the basket. To make this stitch, take 2 medium sized weavers, generally No. 3 and double them, leaving one end of each weaver about 18 or 20 inches longer than the other end; then take any given stake of your basket and slip the loop of one weaver over this stake and the other loop of the second weaver around the third stake to the right. Now

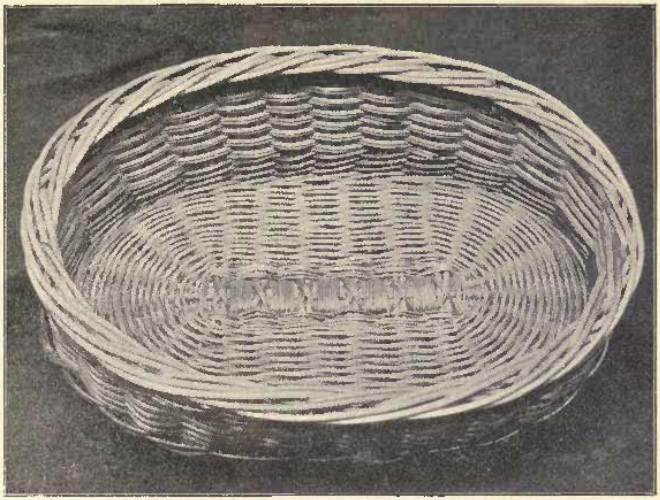


Fig. 15. Model No. 6. Made by Miss Mary L. McIntyre.

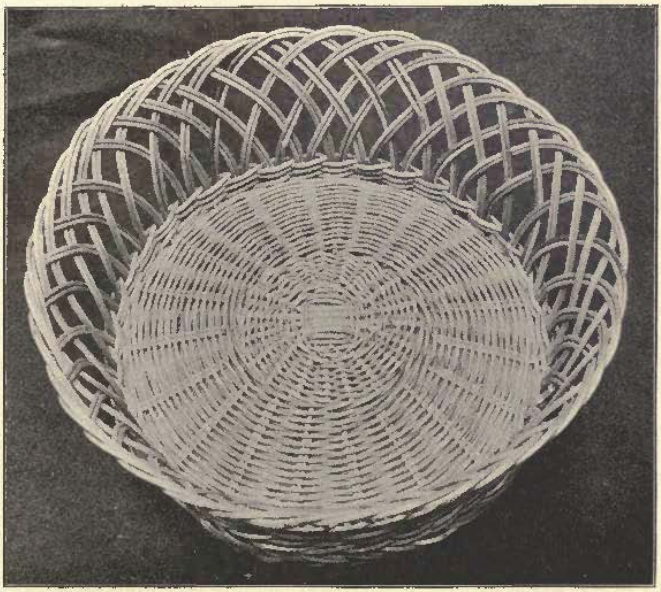


Fig. 16. Model No. 7. Made by Miss Mary L. McIntyre.

take the first weaver to the left, bring it forward to the right over 3 stakes and out behind one stake. Take the second weaver, bring it forward over 3 stakes and back of one. Continue this process until you have worked 2 rows of upsetting. Cut off the left hand weaver not too close and continue with the remaining three weavers over 2 stakes and back of one for 2 rows, which will complete your upset.

Take two No. 2 weavers and do pairing work until you have worked 1¼ inches, then insert 3 weavers in 3 consecutive places and work four rows of wale, leaving the finishing ends on the outside of the basket.

You are now ready for your border. Take any given stake and turn down one back of one for 3 stakes. Take the left hand stake of the first stake turned down and bring it forward in front of 2 and back of one stake, turning down the back standing stake which is left standing to the left. Care should be taken that the stake turned down should lay parallel with the stake just brought in front of 2 and back of 1, otherwise your border will be uneven. When pairs of reeds are reached *always* use the *right hand reed* of the left hand pairs. Repeat this process until all the stakes have been turned down. Clip off the ends of the stakes on the outside of the basket with a pair of cutting pliers.

MODEL NO. 5.—WORK BASKET.

Take 12 stakes 8½ in. long No. 5 reed. Pierce the reeds and weave the base just as is done in the preceding models, weaving 6¾ inches. Cut 23 stakes No. 5 reed 13 inches long and insert these stakes as before. After the stakes have been soaked in water a few minutes and bent flatwise upward close to the base, you are then ready for the upset as mentioned in Model No. 4. After working 1 row of upsetting by going in front of three stakes and back of one stake with 4 weavers, cut off your extreme left hand weaver and work 3 rows of weaving by going in front of two stakes and back of one stake with your left hand weaver. In this model we have introduced very fine braided rush (which is probably "Cat of Nine Tails," commonly called), and you should work 8 rows of single weaving, taking care that it is pressed down firmly as you go along. Insert 3 separate No. 3 weavers in 3 consecutive spaces and work with your left hand weaver in front of 2 stakes and back of one stake until you have been around your basket with the exception of 2 stakes. We now wish to call your attention to the reversing point. Notice carefully any straw hat which you may have and you will see that the finishing side is always one coil wider. We reverse in the stitch called wale to help overcome this climbing effect. Now come back to our reversing point. Notice carefully and you will see that the first stroke in your wale is a *long stroke*, and you have now worked within two stakes of this long stroke. Take your *right hand weaver* and work in front of two stakes and back of one stake and you will notice that the weaver comes out in the space beyond the long stroke. Then take the next right hand weaver and work the

same, then the next weaver. You have now reversed your wale and are ready to work the second row by beginning with the left hand weaver. You should work 3 rows of wale, but you must remember to reverse in each row or every time you go around your basket, leaving your ends on the inside of the basket.

If you find your basket is not quite even in height, take the awl or pliers and rap the weaving lightly to make the weaving all of the same height.

You are then ready for your border. Plunge your basket into water for a few moments in order that the stakes may be bent more easily, then bend the stakes flatwise. Turn down 4 consecutive stakes back of one stake. Take the left hand stake turned down and bring it forward to the right in front of 3 stakes and back of one stake. Then take No. 2 stake and bring it forward to the right in front of three and back of one stake. You will notice that after you have brought 4 stakes forward you have pairs of stakes rather than single ones. Always take the right hand one of the left hand pair. Repeat this process until you have used the entire number of stakes, taking care that your stroke always keeps the same even direction. Clip the stakes left on the outside of the basket with a pair of cutting pliers, and your basket is completed.

MODEL NO. 6.—OVAL BASKET.

Take 5 stakes 12 inches long No. 5 reed for backbone. Take 12 stakes 7 inches long No. 5 reeds for ribs.

Piece the 12 ribs and push the 5 long reeds for backbone through the short reeds which become the ribs of the base. Now you are ready for weaving, after the 6 pairs of ribs have been separated so that the spaces are equally divided by pushing the ribs along the backbone of the base, making the extreme pairs 3½ inches from the ends of the backbone stakes. Now take a No. 1 weaver and cut it nearly in the middle and slip the 2 ends through the puncture of the first pair of left hand ribs at one end of the basket. Then cross the double weaver to the right obliquely over first pair of ribs and bring across the backbone beneath to the right of the backbone and bring the pairs of weavers up to the right obliquely over the first pair of ribs, crossing the first pair of oblique weavers at right angles, then beneath the backbone again and encircle the 5 reeds or backbone 4 times with the double weavers. Slip two more ribs along and repeat the same process as before, and so on, until you have used the 6 pairs of ribs, then fasten by slipping end under other weaving.

Now take a long No. 1 weaver and double about 5 feet from the end, this being the short weaver. Place the loop around the backbone on one side and do paring as in the round base 3 times around the base. The fourth time separate backbone stakes by twos. The next time separate backbone stakes individually, including two outside pairs of rib spokes, which must be separated to form the shoulders.

The 4 pairs of center ribs or spokes are to be worked double all the way along. This is done for strength. Now pairing continues for 3 or 4 rows or until you reach end of short weaver. Now continue the work with one single weaver, working over two and under one until you have worked 9 inches in length. Care should be taken that the round comes sharp and only from the shoulder spokes.

Cut 35 stakes No. 4 reed 15 inches long and insert them so they will be equally divided around the base. Before inserting stakes they should all be pointed. Now work 4 rows of upset in the usual way with a No. 3 weaver. Insert a by-stake at the right hand side of each stake. These need not be more than 3 or 4 inches long. Take two No. 2 weavers and begin what is called "slewing," which is two or more weavers used as one, thus going over one and under one. Repeat this work until you have worked 2 inches. Now take 3 weavers No. 3 reed and work 4 rows of wale over two and under one.

You are now ready for the border, which is a double border. First immerse your basket in water for a moment, then cut off the right hand by-stakes to the level of the wale and pinch your stakes sideways with a pair of flat pliers. Now take any given stake numbering it No. 1 and bring down back of No. 2 and 3 stakes, then take No. 2 stake and bring down back of No. 3 and 4 stake, then No. 3, and bring down back of No. 4 and 5 stake, then No. 4 down back of No. 5 and 6 stake. You have now 4 stakes down in succession which will form the 4 active parts with which you are to border. For the second stroke go back to No. 1 stake, which is down, and bring it in front of 3 stakes and back of one stake and bring down No. 5 stake, which is standing, so that it will lay parallel with No. 1 in the same space. Now take No. 2 stake and repeat the same process, and so on until you have finished your border. When you have reached pairs always use the right hand stake of the pairs. Now clip the ends of the stakes left on the outside of the basket and shape with your hands slightly, and your basket is complete.

MODEL NO. 7.—MADEIRA BASKET.

Cut ten stakes No. 4 reed 8 inches long, puncture and open the center as usual with No. 1 weaver. After you have woven about 3 inches, or as soon as the spaces will allow, bring the back weaver forward and you will then have two weavers in two consecutive spaces. Now insert a No. 2 weaver in the next space, thus making three consecutive weavers in three consecutive spaces. Take the left hand weaver and work in front of two stakes and back of one stake, just as is done in the ordinary wale, and do not reverse in weaving this base. If fine work is desired, weave the base with No. 2 weavers and weave 6¼ inches in diameter. Cut 80 stakes No. 3 reed 16 inches long. Insert one stake on each side of the *base stake* after cutting each stake close to the base. Remember to cut *only every other* stake, and then slip in your new stakes, as if you cut all the stakes around the base your weaving will slip off. Now, after the new stakes have been

slipped in beside the old ones, slip in two more side by side between each set of pairs. This will use up the 80 stakes. Moisten and turn carefully upward and work three rows of upset with three weavers No. 2 reed, working in front of two pairs of stakes and back of one pair stakes. Take any given pair of stakes, bring it forward to the right, making the bend of the reeds about 2½ inches high, bring it back of two pairs of stakes, in front of two pairs of stakes and back of one pair of stakes, slipping the ends of the working pair through the upset or wale. By doing this you have made a secure fastening. Take the next pair of stakes to the right and bring back of two pairs stakes, in front two pairs of stakes and back one pair stakes and slip through the upset. Repeat this same process with the entire pairs of stakes, taking care that the pairs brought forward take the same curve, and be sure that the scallop is of the same height as you work. If you find that the scallop is not perfectly true, slip your stakes a trifle to make true. Now lay the basket bottom side up on the table and finish the foot of the basket with what is called the simple skirt border. Take any given pair of stakes and bring back of two pairs of stakes and in front of two pairs of stakes, leaving the ends inside and beneath the base. Take the next pair to right and bring it back of two pairs and in front of two pairs stakes and leave the ends inside. Continue this same process until all the stakes have been used. Be sure that each pair is turned even, thus giving the same height. Clip the ends from inside and your basket is complete.

You will be able to roll this basket back if you wish by pressing the rim all the way around backward. If you wish it to slant inward, press the top of the basket inward all the way around. One can make almost any shape of a Maderia basket by simply working the stakes in the direction for the shape of the basket desired.

MODEL NO. 8.

OVAL LUNCH BASKET.

Make an oval bottom after the style of model No. 6. The size should be 3 by 6 inches with a slight dishing. Cut twenty-seven stakes of No. 4 reed 15 inches long. Point the ends of stakes and insert so as to have the spaces at the ends of basket slightly closer than at the sides. Weave four rows of three strand upset over two, under one, with No. 3 reed. Weave 2 inches of over one under one; weave with No. 2 reed, and then make what is called the cover-ridge. The cover-ridge is made with fine weavers of No. 3 reed, over two, under three, one row. When you have that row done cut off the two first weavers and continue with the remaining three weavers over two, under one, for three rows, making a special effort to flare stakes while putting on these three last rows of wale.

You are now ready for double basket border. Wet your stakes and finish them very close to wale; lay Nos. 1, 2, 3 and 4 stakes behind one

in succession. Take up No. 1 again, bring forward over three and back of one. This brings your No. 1 stake out in No. 6 space. Bring down your next standing stake, which is No. 5, back of one. If rightly done, this stake, No. 5, will come out in same space as No. 1 stake to the right of it. Do the same thing with No. 2, 3 and 4 stakes. On reaching No. 5 stake you find two stakes in one space; the longer one, the one to the right, is the one to use. The process described is to be followed until every standing stake has been taken down and taken up again for the second stake. Your border is finished when there is an

Fig. 17. Model No. 8. Made by Mr. Hollander.

end of a stake in each space of the basket. The next thing is the cover. Make the same as bottom, with the exception of size and style of weave. You must weave the cover to the size of cover-ridge, and the weave should be over two, under one. When you have woven to the required size, cut off the ends of cover spokes, inserting in their stead No. 3 spokes about 8 inches long. Insert one on each side of one spoke and one on right side only of next spoke. With these stakes you now make the cover border in the same way you made the border for the basket. The handle is the next step. Take a piece of No. 7 reed 18 inches long; point at both ends. This is called the handle-bow. Insert one end of handle-bow down through the weaving beside the

center stake at one side of basket. Bend the bow in the shape you wish for handle and insert the other end of bow beside middle stake of the other side of basket. The handle should be about as high above cover as the border of basket is from table. The width of handle should be a little less than width of top of basket. You are now ready to cover the handle or wind the handle. Take long No. 3 weaver, cut in two, point the ends and insert them beside the handle-bow, to the left, as basket faces you. Pass the two weavers under the bow from right to left—five times. See that the five strokes are evenly divided. Now push your weavers, with help of bodkin, through the wale under second row on opposite side of bow. Return by placing each stroke in the center, between the strokes already on the bow. Insert your weavers through the wale, under second row on same side of bow as you first started. This twisting back and forth continues until the handle-bow is completely covered. The ends of your weavers are finished by tucking them through the border and wale on right hand side of handle-bow and cut off.

You are now ready to fasten cover to basket. Take a No. 3 reed about 12 to 18 inches long; twist this weaver until the fibers are well separated. With this you will now make the hinge. Push the ends of your weaver through cover from under side, one on each side of fourth rib spoke from left as basket faces you. Insert weaver as near to border of cover as possible. Twist the two weavers together, making a two-strand twist about 3 inches long. Bring this around the handle and push ends of weaver through cover, one at each side sixth rib-cover-spoke. Give two or three twists to weavers inside of cover and push one end back to top, over one spoke and through to inside and cut off. The cover lift is made by same kind of two-strand twist, commencing about 1¾ inches up from border of cover at right hand side of the basket and finishing near the border. The low, or finishing end of the lift, should be at the corner of basket and the starting point should be at least 1 inch to left, and the lift should be about 1 inch high.

MODEL NO. 9. FITCHED WASTE BASKET.

1. Make a round bottom 8 inches in diameter.

2. Cut 31 stakes of No. 5 reeds and 17 inches long.

3. Point your stakes and insert them into bottom.

4. Pinch your stakes and turn them upward.

5. Put on two rows of 4 rod upset, over 3, under 1, with No. 4 reeds.

6. Cut out the left hand weaver and put on two more rows of upset with remaining 3 weavers, over 2, under 1.

7. Gather up 31 short ends of No. 3 reeds, say from 8 to 10 inches long, insert the first one in any given space and take one stroke to the right—that is over 1, under 1, and leave the end sticking outside. Insert the next one in the space next to the left of first one and take one stroke to right. Do the same thing with the rest of 31 ends. Leave all the ends outside until next step is taken.

8. Put on 1 inch of plain weaving No. 3 reeds.

9. Take up the short ends left outside, one after the other, and take

one stroke to the right on top of plain weaving and one space to the right of the under stroke, leaving your ends outside again.

10. Weave another inch of plain weaving.

11. Take up short ends again and take another stroke with them, on top of second row of plain weaving.

12. Put on two rows of 3 rod wale No. 4 reeds.

13. Cut off your short ends.

14. Cut 31 by-stakes 13 inches long, No. 5 reeds. Point them and insert one to right of each stake, down to bottom.

15. Make a straight fitch 1¼ inches high. You do this by taking a

Fig. 18. Model No. 9. Made by Mr. Hollander.

soft No. 5 weaver, double in the middle, pass the loop around any given pair of stakes 1¼ inches high and give one twist to your fitching weaver—holding one part of same in each hand. In giving the twist you pass the outside weaver, which should be held in left hand, under the inside weaver, which is held in right hand. Take care to hold your stakes in right position with thumb of right hand. Hold fitch rod firmly in position, after having made twist, with thumb and first finger of left hand while you pass one of the weavers—the under one—over the next set of stakes to be fitched. You treat all the stakes in same manner. When all have been treated, you pass the outside weaver to

the inside of basket through the twist which binds first set, and brings out inside weaver on top of fitch between the twist and second stake. The first weaver, which you have passed inside through first loop of fitch, is now brought out on top of fitch in second space. You now have two weavers sticking out.

16. Insert a third weaver into third space and proceed to put on one row of wale.

17. Put on 1½ inch three rod slew with No. 3 reeds. Slewing is weaving two or more weavers as one.

18. One row 3 rod wale.

19. V. fitch 1¼ inch high. This is similar to step 15 excepting that in starting you take up the right hand side—or by stake—of first set and left hand stake of second set and bind them together in the center of the space.

20. One row 3 rod wale.

21. One and a half inch slewing-like No. 17 step.

22. One row of wale.

23. A 1½ inch cross one fitch. In starting this fitch you take right of first set and left of third set. The left hand stakes on the outside and right hand ones on the inside.

24. One row of wale.

25. One row, three parts slew wale. To do this you cut 12 weavers of No. 3 reeds. The length to be once and a third the circumference of basket at point where you wish the wale. These 12 weavers are divided into three parts which are treated as three single rods.

26. Two rows of 3 rod wale.

27. Make top level, cut off by stakes close to wale and wet and pinch your stakes.

28. Put on five part braid border. Cut 10 No. 5 weavers, one and one-third circumference of basket to be the length. Tie the weavers at one end. Place 4 weavers to the inside of basket on top of wale. Take 2 weavers of the 6 that have been left outside, pass them on top of the other 4 weavers and to inside of basket in front of No. 1 stake, take up extreme left hand set of inside weavers, bring to outside in front No. 1 stake, on top of set of weavers you have just passed in. Bring down first stake so as to lay beside your return stroke. The left set of outside weavers is next brought over in front No. 2 stake and left inside set comes out in same space on top, and No. 2 stake comes down with it. This is continued to the end and then the stakes are cut off. This is simply a five part braid with a stake brought down with every other stroke.

29. Make the handles—cut 2 pieces of No. 6 or No. 7 reed about 8 inches long for handle bows. Point the ends. Insert the end of one bow down beside No. 1 stake down through border and wale. Bend to the right, inserting the other pointed end beside No. 4 stake. The bow should be about an inch and a half high. The second bow is inserted directly opposite.

30. The winding of the handles is done by taking a soft No. 4 reed, tuck the end to the left of handle bow as it faces you, pass weaver in from you three times. Pass the weaver to inside of basket at right of bow at a point under border and at least one row of waling. Turn

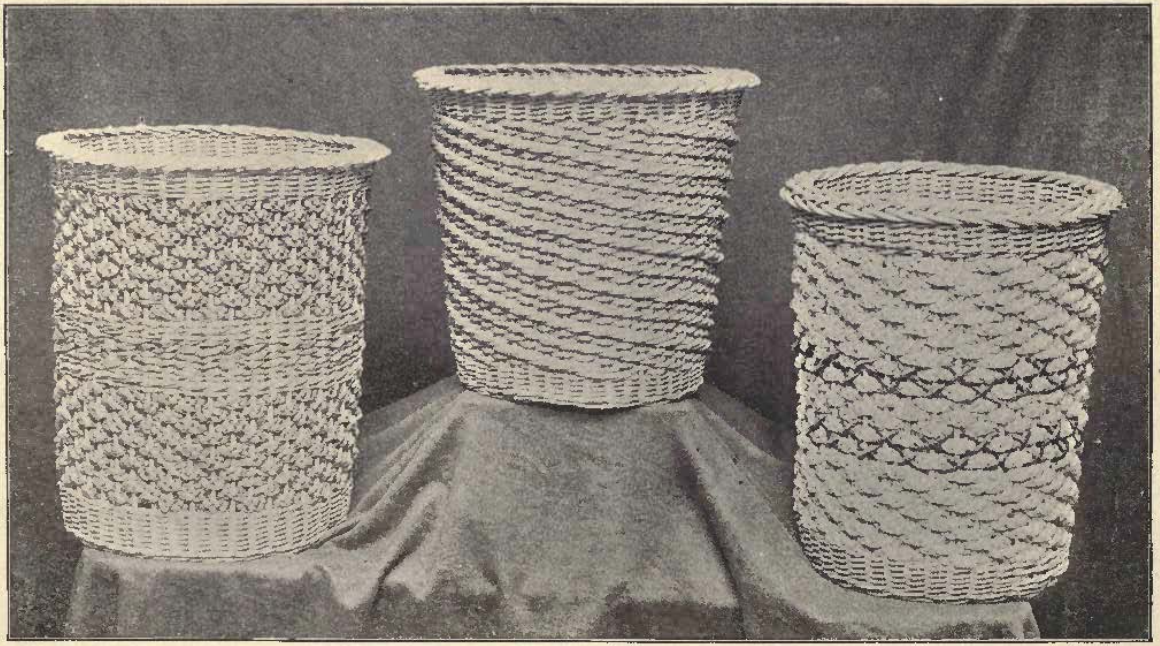


Fig. 19. Braided Green Rush Basket.

Fig. 20. Rope Basket.

Fig. 21. Braided White Rush Basket.

the basket so that you can work weaver from you again only handle will now be on farther side from you. Take your three strokes, return to opposite side as you did on previous time. Keep this up from one side to the other until the handle bow is completely covered.

After the first time, you must go through the wale between previous weaver and handle bow.

BRAIDED GREEN RUSH WASTE BASKET.

Weave a base as described in the seventh model (Madeira), and weave 9 inches. Insert enough stakes to make forty-five in all, No. 6 reed 19 inches long. Put on the upset as before described, working about nine rows in all, pains should be taken to keep the stakes standing erect. Take braided rush and dip it in warm water for a few minutes to moisten and keep the rush from cracking, weave ten rows, care should be taken that the rush is evenly packed down, as the work, otherwise, will not be firm and even. Now work one row of wale with No. 3 weavers and be sure to reverse. Here we will introduce what we call Slew Wale. This is worked exactly as you work single wale, except use three weavers in the place of one weaver. Now arrange nine weavers and work in front of two stakes and back of one stake with three weavers used as one. You have nine weavers working, and we might say that No. 2 reed is about the right size to use. Reverse this work as though it were single wale and only work one row. Be sure the three weavers lay exactly parallel, leaving ends on the inside of the basket. Take three No. 3 weavers and work one row of wale. Take the braided rush and unravel a few yards and work five rows of paring which is working two weavers, as is done in the mat.

Work one row of wale with No. 3 weavers. Work one row of slew wale No. 2 weavers as before. Work one row of wale with No. 3 weavers. Work ten rows of braided rush, and we might say that the rush panels should be of the same width. Take No. 3 weavers and work six rows of wale and use the braid border as is described in model No. 9.

WHITE RUSH WASTE BASKET.

Cut ten stakes 10 inches long No. 5 reed. Open the center as usual, weaving 4 inches in diameter, after which bring the back weaver up and insert another, making three consecutive weavers in three consecutive spaces, and finish the base with three weavers, making the diameter 8 inches. Cut forty-one stakes No. 6 reed 24 inches long and insert the stakes as usual one beside each stake and then slip in another between each stake. You will find you have three stakes left, and you may slip these in wherever you find the spaces allow the most space. Pinch and bend as usual, putting on two rows of upsetting with four weavers No. 3 reed, always reversing. Cut off the end

of the left hand weaver and work five rows more of upset with three No. 3 weavers, reversing each time you encircle the basket. Moisten the white braided rush and insert behind any given stake and work in front of two stakes and back of one stake. Repeat this process all through the basket, weaving 10 inches. Be sure that the rush is kept even and well packed. Take three No. 3 weavers and work five rows of wale and reverse as usual. Wet the stakes well and pinch sidewise. Take any given stake and bring to the right back of two stakes, laying it down in the space where it would come out. Bring the next stake down back of two stakes and lay it down as before. Repeat this same process until all the stakes have been turned down. Take any given stake and bring it to the right up under two stakes, then take the next stake to the one just used and bring up under two stakes, and so on until you have used this stroke with all the stakes, slipping the last stake under the loop made by bringing the first stake used up under two. For the last stroke, take any given stake and bring to the right over two stakes and slip through to inside of basket on top of wale. Repeat this same process with all of the remaining stakes. You will not find this a hard border to work except that you may find it a little hard to pull the stakes through the wale. This is called a Three Part Combination border.

You will notice from the plate that there are four small bands worked into this basket, and we might say that this is a fancy braid worked at the same time the rush was worked, but it would be difficult to describe this, and so we would suggest that you make a small braid of any colored raphia that you wish, and after the braid has been worked or braided, cut it in two pieces and draw the raphia braids in at right angles, making crosses over every other stake.

ROPE WASTE BASKET.

Cut twelve stakes 9 inches long No. 5 reed and open a center as in any other basket. After you have woven a center about 4 inches in diameter, bring back weaver up and insert another weaver, thus making three working weavers of No. 2 or 3 reed, and finish your base as is worked in *model No. 7*. This particular stitch is strong and is often used in finishing the base of waste baskets where many stakes are to be inserted from the base. Cut forty-five stakes No. 6 reed 17 inches long and insert these as usual, after moistening the base and the stakes. One may be inserted on each side of each of the spokes coming from the base and insert the balance so as to about equalize the spaces. Moisten and pinch flatwise upward and work two rows of upsetting with four working weavers, reversing each time you encircle the basket. Cut off the left hand weavers and work the balance of the upset four rows with three weavers No. 3 reed, working in front of two stakes and back of one stake and reverse as usual. We will introduce Sisal rope in this basket, and we might ask you in starting work to use much care in your weaving, as if the rope is worked too slack your result will not be satisfactory. Take one end

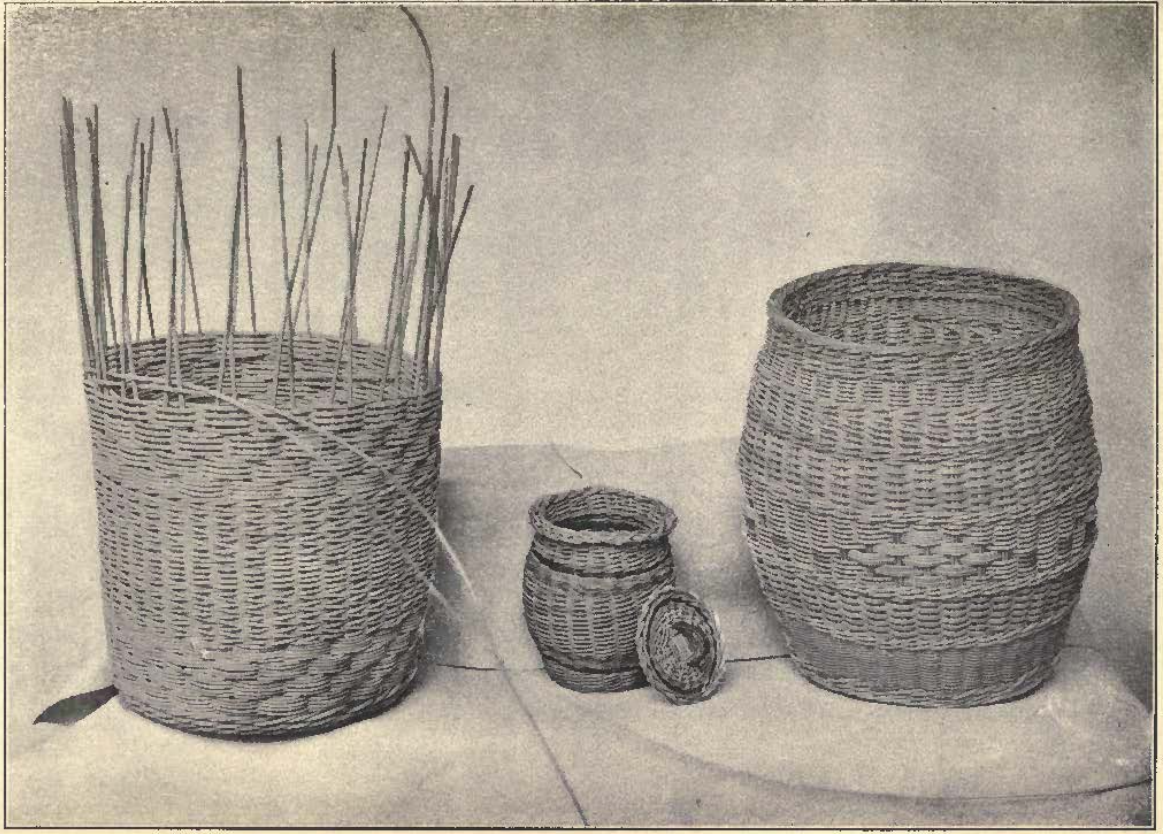


Fig. 22. Eternal Basket. Fig. 23. Small Barrel Basket. Fig. 24. Barrel Basket.

of your rope and insert in any given space, bring weaver (rope) in front of three stakes, back of one stake, in front of one stake, back of one stake, in front of two stakes, back of one stake, in front of one stake, back of one stake, and so on the entire way around your basket. You will undoubtedly miss your stroke, and should you do so, take the work out, as the long stroke (in front of three stakes) should come one space farther to the left each time you complete a row of weaving around the basket. Work this same combination of strokes until you have woven 8½ inches. Be sure, too, that the weaving is kept close and firm all through the basket. Insert three No. 3 weavers and work six rows of wale, reversing each time you encircle the basket. Moisten the stakes and pinch sidewise and use the braid border as given in model No. 9. Clip the ends of stakes and the basket is completed.

BARREL SHAPED SCRAP BASKET.

1. Make a round bottom 8 inches in diameter in the usual way.

2. Insert thirty-six No. 5 stakes 25 inches long.

3. Pinch the stakes, turn them up and put on two rows of four weaver upset over three and under one.

4. When the two rows are on, cut off the extreme left weaver and put on two more rows with remaining three weavers, over two, under one.

5. Bystake with same size stakes 13 inches long—one to the right of each stake.

6. Weave 1½ inches of plain weaving, over one, under one, with two weavers, alternating.

7. Two rows of three-rod wale.

8. One and a half inch two weaver slew.

9. Two rows three rod wale.

10. Work out a panel of plain three block diamond. To do this divide your thirty-six stakes into four parts of nine stakes each. Start a No. 3 weaver behind any given stake, calling the first stake to the right from that point No. 1 stake. As you proceed with this weaver over one, unde rone, it will pass in front of the odd numbered stakes. When half way around you insert another No. 3 weaver, which must pass in front of the even numbered stakes. Your object now is to pass your weavers in front of Nos. 1-10-19 and 28 stakes without passing behind them at all. When your weaver does not come in front of the above named stakes in the natural course, you must skip two stakes from behind in the stroke before reaching the block, and skip two again after passing in front to return the weaver into its natural course. When you have your four block made, that is, gone in front of stakes Nos. 1, 10, 19 and 28 five times in succession, you work out a block on each of the following stakes: Nos. 36-1, Nos. 9-11, Nos. 18-20 and Nos. 27-29. The third time your blocks will come on stakes Nos. 35, 1, 3 for first diamond; Nos. 8, 10, 12, second diamond; Nos. 17, 19, 21, third diamond, and Nos. 26, 28, 30, for fourth diamond.

The fourth time the two blocks will come on same stakes as second time. The fifth time the one block to each diamond will come on same stakes as first time.

11. Weave two rows three rod wale.

12. Weave 1½ inches two rod slew weave.

13. Two rows three rod wale.

14. Weave 1½ inches over two, under 1, weave.

15. Two rows of wale.

16. Weave 1½ in over 1, under 1, weave.

17. Four rows of wale.

18. Cut off bystakes and put on double basket border as in No. 5.

Important Points.

Your weavers are of No. 3 reeds and your wale and upset rods of No. 4 reeds. The diameter at bottom is 8 inches, flared to 12 inches at 6 inches high, and drawn back to 8 inches at top.

THE ETERNAL WASTE BASKET.

1. Round 8 inches bottom.

2. Insert forty No. 5 stakes 23 inches long.

3. Five rows of four rod upset over three, under one.

4. Weave with No. 3 weaver over two, under two, half way around basket; insert another weaver to work contrary to first weaver; continue this way ten rows—five in front and five behind.

5. Cut off your weavers and reinsert them so as to form a block between every two in under row ten times around as before. Do this till you have four rows of blocks. This is a panel of Dutch banding.

6. Two rows of four rod wale over three, under one.

7. Work out a 2-inch panel of what is sometimes called arrow-head waling—and at other times right and left hand waling, or again, Japanese waling. You start with three weavers, one row common waling; reverse and weave one row over two, under one; but with this difference, that this time, instead of left hand weaver being brought to the right over the other two working weavers, it is brought forward under the other two weavers. This is equivalent to a wale done left handed. You continue this for two inches, alternating right and left hand wales, reversing each time.

8. Two rows four rod wale over three, under one.

9. Weave a two-inch panel of over two, under one weave.

10. Two rows four rod wale, over three, under one.

11. Repeat No. 7.

12. Two rows four rod wale.

13. Another panel of Dutch banding, same as No. 4 step.

14. You weave as many rows of four rod wale over two, under two, as will be required to bring your work from 10 to 11 inches high from table.

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15. Make a roll with No. 3 reeds. Make this roll as small as you can, finishing with plain roll border, that is, by throwing your stakes in over two stakes.

POINTS.

The wales and upset are of No. 4 reeds. The weaving, including the arrow-head, is done with No. 3 reeds.

The basket is 8 inches in diameter at bottom and 9 to 10 inches at top, inside measurement, and 12 inches high.

This basket is so strong that it is called "The Eternal Basket."

SMALL BARREL BASKET.

Cut ten stakes 4½ inches long No. 4 reed. Pierce and open a center as usual and weave 3½ inches. Cut nineteen stakes 14 inches long and insert into the base as usual. Moisten and bend close to the base and put on one row of upsetting with four weavers. Cut off the left hand weaver and work five rows of wale, and we might say that it is not necessary to reverse your wale in this basket. Care should be taken to slant the stakes outward to give the shape desired. In this basket we have taken two strands of a deep shade of green raffia and worked three rows of paring, then three rows paring with white raffia and three more with a delicate blue raffia. Now introduce three weavers No. 3 reed and work thirteen rows wale. It will be necessary to flare your basket a little each time you encircle it until you reach the seventh row, and from this point you should draw it in slightly. Work three rows of paring with light blue raffia, three rows paring with white raffia and three rows of paring with deep green raffia and you will have a very pleasing effect. Insert three weavers and work two rows wale, then slip in two more weavers and you will find you have five working weavers, and we will work what is called the cover ridge by taking the left hand weaver, working in front of two stakes and back of three stakes. This will give a long stroke on the inside on which the cover is to rest. Cut off two left hand weavers, leaving the ends on the inside. Take the left hand weaver of the remaining three weavers and work four rows of wale, leaving the ends on the inside. Moisten and pinch stakes ready for border. Take any given stake and turn down one stake back of one stake. Do this with the whole number of stakes. Take any given stake and turn up under one loosely all the way around the basket. Take any given stake and bring over one stake, leaving end on outside, and clip, but not too close.

COVER.

Cut ten stakes No. 4 reed 8 inches long and puncture as usual. Open the center with very fine reed (with oo if you can procure it). After you have woven about 1 inch, work two rows of paring with light blue raffia, one row of paring with white raffia and two rows with deep green. Work one row of wale with very fine reed and leave ends on under side. Moisten the ends of stakes and pinch as usual. Take any given stake and bring it over one stake and so on until you have turned in all the stakes. The ends may be clipped, but not too close. The clipped end should just come in front of the preceding stake. For the lift take a piece of No. 3 reed about 9 or 10 inches

long. Moisten and twist slightly, after doubling it in the middle, then take the loop and slip around the middle reed from the under side of the cover, bringing the two ends on top of the cover. Now take a piece of raffia, double it and weave back and forth until you have the desired height. Bring the end of reed and raffia through the cover around the opposite middle reed and fasten.

ROLL TOP GRASS SCRAP BASKET.

Make a round bottom 7 inches in diameter, same as that of model 6.

1. Cut 80 No. 4 stakes 22 inches long and point them.
2. Insert 40 of the stakes into the bottom—usual way.
3. Make rolling upset (that is, without pinching and turning stakes up sharply), about 8 rows of 4 strand upset with No. 3 reeds.
4. Insert other 40 stakes, one to right of each stake.
5. Twist a lot of the grass. That used in model is a fine round rush, from 2 to 3 feet long, which grows in many lakes in New England. The twist is done by taking about 8 strands of the grass, tie together at thick end, divide in two parts of 4 strands each, make the end fast to table by means of an awl or nail, twist each part by itself at same time passing left hand under right, making both parts to twist closely.
6. Weave four figures in following way. Mark off 10 stakes; place end of twist in front of fifth stake, go around sixth and out to left, 1 stroke to left, round fourth, 2 strokes to right, round seventh, 3 strokes to right around third; continue this until you have gone around tenth stake on the right and around first stake on the left. Continue to weave right and left, lessening number of strokes by one each time until you reach the center. Do this same thing with the other three parts of ten.
7. Put on one row 3 strand No. 4 wale.
8. Fill the valleys as you worked No. 6 process.
9. One row of wale.
10. Repeat No. 6 process with opposite sets of stakes.
11. One row of wale.
12. No. 6 process again with first set of stakes.
13. Two rows of wale.
14. Braid about 6 yards of 3 parts braid with same grass or other material.
15. Weave 3 rows of over one under one. Weave with the braided grass, alternating with a weaver of No. 4 reed.
16. One row of wale.
17. Three more rows same as No. 15 process.
18. Three rows of wale.
19. One inch of plain grass weave.
20. Three rows of wale.
21. One inch of grass weave.
22. Two rows of wale.
23. Make a 3-inch roll, with over 2 under 1 weave.
24. Finish the roll with over 1 under 2 skirt border.

This basket should be shellaced.

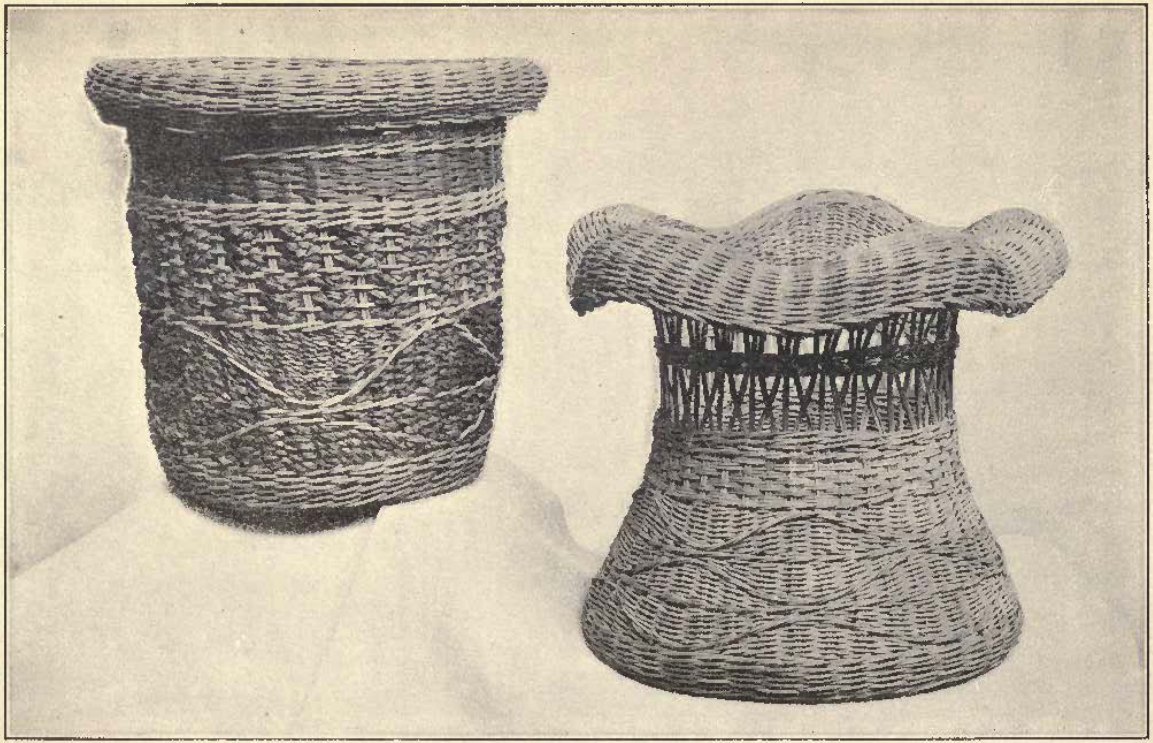


Fig. 25. Roll Top Grass Basket.

Fig. 26. Lily Basket.

LILY BASKET.

Bottom.—Take 12 spokes of No. 5 reeds 13 inches long. Make the bottom in usual way to seven inches in diameter. Insert 27 stakes of No. 5 reeds 22 inches long, but do not cut off ends of bottom spokes. Weave 1 or 2 rows of 3 strand upset, and weave up side of basket to 6 inches, perfectly straight and using wide, flat reeds. Now return to bottom, weaving it out to between 11 and 12 inches. Cut off ends of bottom spokes and insert 39 pairs of No. 3 reeds 22 inches long. Make a round upset with 3 soft No. 3 reeds. The round upset is made by bending the stakes as you weave the upset instead of pinching and turning them up sharply. This will require more rows than when done in the usual way, at least 6 rows. Your object now is to weave up to the top of inner basket, drawing in your stakes so that your outer work will meet the inner work evenly. The concave and convex work is a pretty way to weave the outer basket.

Divide your stakes in five parts, 8 stakes in each of 4 parts and 7 stakes for the fifth. Use No. 2 reeds for weaving. Place the end of your weaver between fourth and fifth stakes of first part; turn around fifth stake inward; bring out to left and turn around fourth stake going in; take one stroke to the right and turn back to left around sixth stake and take 2 strokes to third stake; 3 strokes to right and turn around seventh stake, 4 strokes to right and around second stake; 5 strokes to right and around eighth stake; to left and around first stake; to right and around seventh stake; to left and around second stake; to right and around sixth stake; to left and around third stake; to right and around fifth stake; to left to fourth stake. Do the same thing with the other 4 parts. Put a 3-strand wale, No. 3 reeds, one row, and pound down closely. The result will be five plain convex figures. You now fill up the five hollow parts in the way you wove the other figures. When your work is level, weave one row of wale. Repeat this style of weave until 5 inches high. You weave to top of inner basket with a 2-weaver slew. When you have reached the top of the inner basket, you may put on 3 rows of wale, bringing the No. 3 stakes beside the No. 5 ones, making the former act as by-stakes to the latter, one pair on each side of main No. 5 stakes, inserting extra No. 3 stakes where needed. Make a 1½-inch feather-pitch. Take soft No. 4 weaver, double it. Take up right hand pair by-stakes of first set—middle stake of center set—and left hand pair by-stakes of third part, pass the loop of weaver around them and bind stakes by twisting your two weavers. Repeat this till all your stakes have been taken in. One row of wale on top of pitch.

The pitch should flare a little.

The next step is a straight V compound pitch 1½ inches high. The loop of your pitch weaver is placed around one of the No. 5 stakes and twisted so as to bind stake; next you take the two nearest pairs of by-stakes, binding them together with pitch weaver. Repeat to the end. Two rows of wale on top of this pitch. Cut out the right hand side pair of by-stakes, and you are now ready for three-quarter roll. Divide your stakes, which are now 54 in number, into 5 equal parts and work on a 2 inch convex. One row of wale. Another 1-inch convex on top of the other. Finish the rest of roll with over 2

under 1 weave. The roll finishes with back of one front of two skirt border. Your basket should now be 7 inches diameter at base, 12 inches high and 9 inches wide at top, inside measurement.

UNFINISHED FITCH WASTE BASKET.

Cut 10 stakes 9½ inches long, No. 5 reed, and open a center as usual. The base of this basket is 8 inches in diameter, and is worked with single weaving. You can finish weaving the base with a No. 3 weaver. Cut 33 stakes, No. 6 reed, 19 inches long, and insert one

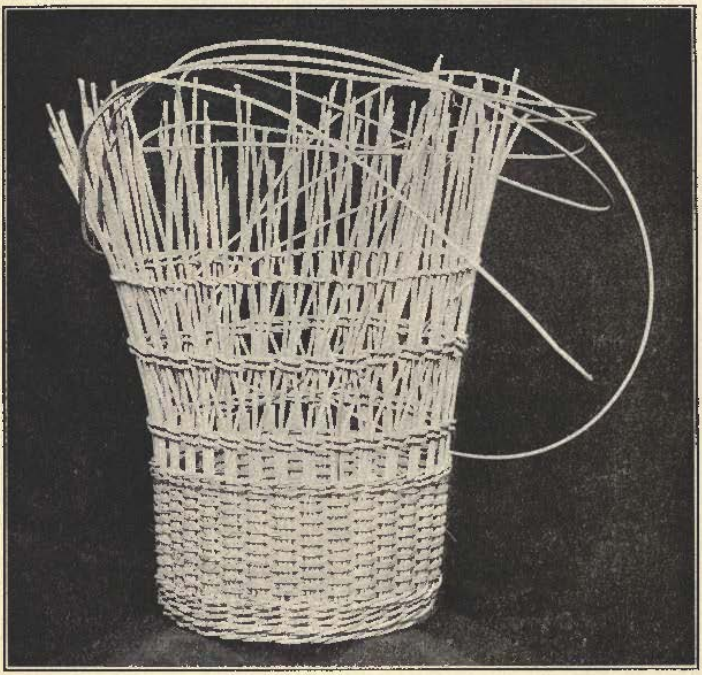


Fig. 27. Unfinished Fitch Waste Basket.

stake to each base stake, then insert the balance to about equalize the spaces around your basket. Pinch and bend as usual and work 2 rows of upsetting with 4 weavers. Cut off the extreme left hand weaver and work 3 rows of upset with No. 4 weavers. Now cut 66 stakes 17 inches long, No. 5 reed, and slip one stake on each side of the stakes already in the basket. You will now find the spaces are very close. Take 3 No. 2 weavers and weave as with one weaver, going over one stake and back of one stake as in single weaving. Using two or more weavers is called slewing. Care should be taken that the weavers all lie perfectly parallel and work 3½ inches.

Work 2 rows of 3 rod wale and reverse each time around the basket. The next step in this basket is *fitch* work, and we refer you to model No. 9 for fitching. After each fitch, always work 1 row of 3 rod wale. After working the last fitch at the top of basket, work 4 rows of 3 rod wale and finish with a braid border as described in model 9 or any other border may be used.

RUSH FLOWER POT.

Cut 21 pieces No. 5 reed 15 inches long. Dip the ends of the stakes in glue and insert the stakes into the holes in the base. Take 3 No. 3 weavers, inserting one in each of 3 consecutive spaces, and work

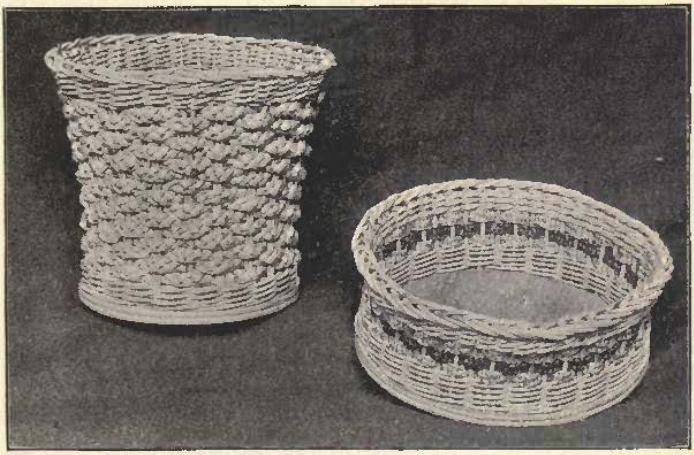


Fig. 28. Rush Flower Basket.

Fig. 29. Fern Basket.

for *one row* in front of three stakes and back of one stake. This gives a long stroke and its purpose is to cover the wood. Remember to reverse each time in your work. Work three more rows of wale going in front of 2 stakes and back of one stake with your left hand weaver. After the wale is finished and the ends left on the inside of the basket cut 21 more stakes 15 inches long and insert one stake at the right hand side of each of the other stakes, which is called a bi-stake and is more or less done when the filling is to be of large material which gives strength. Moisten the rush in lukewarm water and work 16 rows or until you have woven 6 inches of rush; the size of the material often changes the amount to be used. Work 4 rows of wale with 3 No. 3 weavers, reversing each time. Be sure that

the weaving is perfectly even before turning the border. Pinch the stakes sidewise.

For the border take any given stake and number it No. 1. Take No. 1 stake and bring it back of No. 2 stake, laying it down in the next space. Take No. 2 stake and bring down back of No. 3 stake in the next space, and so on until all the stakes have been laid down. Take any one of the ends left on the outside of the basket and bring it to the right in front of two stakes and slip through the space on the inside of the basket. Take No. 2 spoke, bring to the right two spaces and slip through as before. Repeat this process until all the spokes have been used, and if they have been slipped through the proper spaces, there will be an end of a spoke in every space. This is a very pretty, simple, yet strong border. Clip the ends from the inside, but not too short.

For finishing the wood, a piece of flat reed can be tacked on with very small tacks. This presents a neat appearance.

FERN BASKET.

Cut 25 stakes 7 inches long, No. 5 reed. Dip in glue and insert in base. Take 3 No. 3 weavers and work one row of wale, working in front of 3 stakes and back of 1 stake for one row only, reversing the wale at the finish. This is done to cover the wood as it gives a long stroke. Work 4 rows of ordinary wale, and when this is done, leave ends of weavers on the inside of basket. Cut 25 more stakes 7 inches long and slip one stake through the wale just midway between the other stakes. Take a piece of green straw braid and work one row of single weaving making the join by working one or two strokes beyond the starting point. You should moisten the straw slightly to keep it from breaking. Work in one row of red straw braid finishing the same way. Then work one row of green straw braid. Use a four-rod wale, which is just the same as the three-rod wale, except that it is done by taking four weavers No. 3 reed and inserting one weaver in each of four consecutive spaces. Take the left hand weaver and work in front of two stakes and back of two stakes and you will notice this makes a very pretty, strong stitch. Work three rows of four-rod wale and reverse in the usual manner. Be sure that your work is even. If you find it is not even, rap the highest points slightly with an awl or pliers to even it up. Pinch your stake sidewise. For the border take any given stake and number it No. 1. Take No. 1 stake and bring it back of two stakes, laying it down in the space where it comes out. Take No. 2 spoke, bring back of two spokes, and so on until all the stakes have been used. Take any given stake, bring it in front of two stakes and slip through the space on the inside of the basket. Take No. 2 stake and bring it to the right in front of two stakes and slip through the next space and leave end on the inside of the basket. Repeat this until all the stakes have been used, and, if your work is evenly done, you will be surprised to see

what a pretty border you have made. Take two pieces of flat reed and tack around the base neatly, and your basket is completed after the ends have been trimmed from the inside.

SMALL SQUARE HAMPER.

1. Prepare a square board ¼ inch thick and 7½ inches wide. Get 4 ¼-inch dowels 11 inches long.

2. Bore in the board, on top, near the edge, 11 holes on 3 sides and 12 on the 4th for a No. 4 stake. Bore a ¼-inch hole at each corner for the dowels.

3. Cut 45 No. 4 stakes 20 inches long.

4. Glue the stakes and dowels in holes.

5. Spread out the tops of your dowels about 1½ inches and hold them there by means of thin slats nailed across top.

6. Put on 3 rows of 3-rod upset; over 2, under 1, with No. 3 reeds.

7. 2½ inches of over 1 under 1 weaving with No. 2 reeds.

8. One row 3-rod wale No. 3 reed.

9. 2½ inches 3-strand slew No. 2 reed.

10. One row 3-rod wale.

11. 2½ inches over 2 under 1 weaving No. 2 reed.

12. Two rows 3-rod wale, called handle wale.

13. At this point you put on the handles. See steps No. 29 and 30 in model No. 8. The handle-bows are pinched so as to make them stand off from side of basket.

14. Work plain weaving to within ¾ inch of top of your dowels.

15. Put on as many rows of wale as required to bring your work flush with top of dowels.

16. Bore a hole in the center of top of each dowel and insert a stake in each one.

17. Wet and pinch your stakes.

18. Border with square double basket border. Lay 4 stakes down in succession behind 2; bring No. 1 stake forward in front of 3 and back of 1; bring down No. 5 stake back of 2 in same space and beside No. 1; No. 2 stake front of 3, back of 1; No. 6 stake comes down in same space and beside No. 2, and so on to the end. The corners are made thus: When the first space on a new side of basket is reached, the 2 standing stakes to left of corner stake come down together in first space of new side which now contains 3 stakes, 2 standing stakes to left of corner and 4th laying down stake left of corner. Now bring up 3rd laying down stake from corner in front of corner stake and 2nd laying down stake beside and front of 3rd one. You have now five stakes facing same way, 2 in front and 3 behind corner stake. In the next stroke you must use the dead stake in 1st space left of corner; the so-called dead stake is a stake that, in this border, has made 2 strokes and is to be cut off; this dead stake goes in 1st space of new side and out in 2nd space. No standing stake is brought down with this one. It is called the solitary stake. The next stroke is with the last live stake on the old side of basket; it goes in front of corner and 2nd stakes on new side in second space, behind 3rd stake and out in 3rd space. The corner stake comes down in same space. Now you take the left hand stake of the 2 which are in front of corner stake out of 3 and back of 1

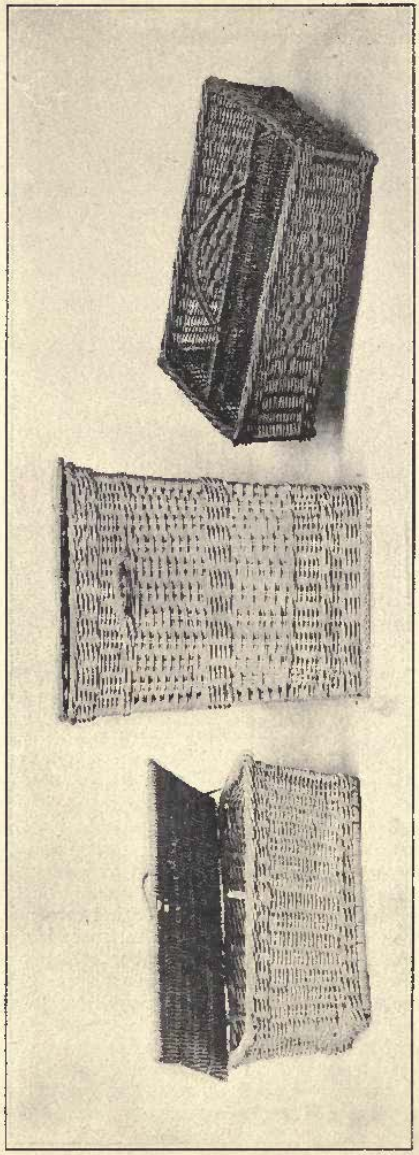


Fig. 30. Oblong Lunch Basket. Fig. 31. Square Hamper. Fig. 32. Knife Basket.

Next standing stake down back of 2. You next take extreme right of 3 stakes in 1st space; next standing stake —. Next take solitary stake; if too short, splice by inserting new stake in front of it. In finishing this style of border you must carefully study the position of the stakes in the finished part of the border, the body of the border. By so doing you should not find much trouble.

19. You are now ready for the cover. Take 2 pieces of No. 7 reed and 12 pieces No. 6 reed about 12 inches long. Measure across the top of basket at the corner. It should be about 9½ inches. If such is the case, you mark off a space on a piece of board 9½ inches or the exact width of the top of basket. Place the No. 7 sticks on the mark and tack them to board. Next tack your No. 6 sticks in pairs at regular intervals between the No. 7 sticks.

20. You now weave up the cover over 1, under 1, with No. 2 or No. 3 reed, beginning at left, around right outside stick, to left around outside stick and so on. You must keep outside stick covered with weaver by going around it twice with weaver as often as necessary. You do this until your cover is square.

21. Finish cover by splitting a No. 7 or No. 8 reed in two. This piece should be about 3 inches longer than the width of cover. Point both ends of each piece. Cut off the cover stocks at one end of cover close to weaving, excepting the outside sticks which are cut off last. Place one piece of beading—the split No. 8—against the top where sticks have been cut off and mark beading so that when bent to be inserted both ends will be of about even lengths. Pinch the beading before bending and insert the points of beading beside each outside stick inside. Treat other end of cover in same way.

22. You now tie down the beading. Take 2 weavers of No. 3 or No. 4 reed about 3 feet long. Push one weaver through the cover beside one of the sticks from end to end at one-third the width of cover, leaving equal lengths of weaver to stick out for tie. The other weaver goes through one-third the other way. Twist your reed to avoid breaking, insert the end of weaver through weaving about 4 or 5 rows of weaving from edge. Bring your weaver over beading, down to point of insertion, through and over beading again until the weaver has bound beading to weaving 3 times. Fasten the end by weaving in and out a couple of strokes. This will give you 2 ties for each end.

23. You now fasten cover to basket by means of hinges made in same way as you finish cover. Insert your tieing weaver down into basket beside third stake on one side and tenth stake on other side of that side of basket which has 12 stakes. This will be back of basket.

24. The front fastening is done by twisting a short piece of No. 4 reed into a sort of staple-shaped loop on the center stake on front side of basket. Another loop is made in the same way on the edge of cover at the center, and long enough to come down over the staple loop. Next comes the pin twist. Take a piece No. 4 reed 12 inches long. Double, place center around a nail driven in the table and twist weaver to avoid breaking, and twist both together into a rope twist about 2 inches long. Fasten the ends about 1 inch to right of staple loop. This is the pin that goes through the staple loop over the cover loop when this has come down through staple loop.

OBLONG LUNCH BASKET.

This is made as the square hamper with the exception of the following points:

The dimensions are 4½ inches by 9 inches for the bottom. This is made like the cover of hamper without the finish. The stakes are of No. 4 reeds 15 inches long for the ends and 18 inches for the sides. For the ends you point the stakes and insert beside the bottom sticks as in round baskets.

For the sides you skellem the stakes. This is a term used in basket making. It means to skive, or, in other words, to cut out about one-half of the thickness of your stake at the end that goes through and around the edge sticks of bottom.

In this case you skellem the stakes about 3 inches from the end, that is about 3 inches of the stakes will be only half as thick as the rest. You insert the skellemmed end of the stakes through the bottom from outside. When you have one side all inserted, you begin from the left; bring up the stake into position with right hand so that it will rest firmly on upper edge of outside stick and bring down thin end of stake to left around base of stake, binding it firmly on front, leaving the end to rest on bottom. Bring up second stake in same way, binding in its course all you can of the thin end of first stake. The last end is fastened by weaving into bottom. Four rows of 3-rod upset. Weave 3 inches over 1, under 1. Top weaving with 3 rows of wale. Same border as square hamper. The dowels are 4½ inches long. They are fastened in with the upset. You will find it to your advantage to cut notches into dowels so that the upset will hold them better. Flare your basket about 1 inch.

Use an odd number of cover sticks so as to have a center one for handle, which is made like hamper handles. It is made on the cover, in the center. The upset and wales with No. 3 reeds. The weaving with No. 2 reeds.

KNIFE BASKET.

Dimensions: 8 x 11 inches bottom, 3 inches high, inside. Flare ¾ inches. The bottom is made with 8 No. 7 sticks 11 inches long. These are tacked to a board singly and 1 inch apart. You weave with No. 2 large, plain weaving, excepting that you put in a 4-block diamond in the sides as described in barrel shaped waste basket.

The upset and wales are made with No. 3 reeds. The stakes are of No. 4 reeds 16 inches long and 37 in number.

The side stakes are skellemmed, as elsewhere described in oblong lunch basket. The border is the double basket square border. When the basket is bordered, you make a partition in same way as you made bottom. The width should be same as depth of basket, inside, and the length same as length of basket.

The partition is fastened by 2 ties in bottom and 1 tie at each end of basket. A handle is made on top of partition. The most suitable handle is the one given in model 8. It should be about 3 inches wide and 1½ inches high.

FLOWER BASKET.

DESIGNED BY MISS M. L. MCINTYRE.

Cut eight stakes #4 Reed 6 inches long. Find the middle of four stakes and pierce with awl and slip the remaining four stakes through the four punctured reeds.

Take a very pliable #1 Reed and encircle the four-quarters *once* around the same as in opening any ordinary basket base.

Work out 5 stars in the bottom of the basket, as follows: Note you have four quarters of four stakes each. In your mind divide each quarter into halves and bring the back weaver to the front by dividing the first quarter into halves, carrying the weaver diagonally across and down between the first half of the second quarter.

Bring the back-weaver up in the SAME space and carry this diagonally across and down between the next half of the third quarter. When each of the four quarters have been divided, cross the

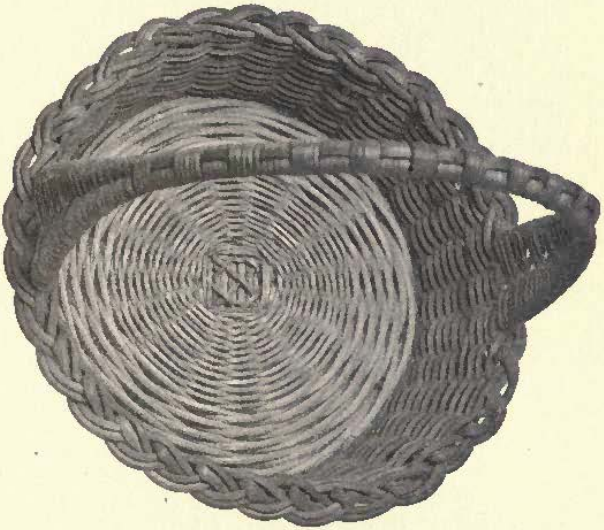


Fig. 33. Flower Basket, made by Miss Mary L. McIntyre.

complete center of base diagonally from corner to corner, and you will discover the 5 stars in the base of the basket. Drop one weaver and proceed by weaving over two stakes and back of one stake with one weaver. Pay especial attention to this style of weaving as a mistake may be made very easily; also bear in mind that as the spaces increase, the size of the weaver should also be increased until the diameter of the base is 5¼ inches.

Cut thirty-two stakes #3 Reed 15 inches long, very pointed, and moisten well. Cut off every other stake around the base very close to the weaving and insert a new stake on each side of each stake pushing it well into the Basket Base.

Moisten and bend the stakes sharply upward. Work one row of upset with four weavers by working in front of three stakes and back of one stake as usual. When once around drop one weaver, leaving end inside of basket and with one weaver continue by working in front of two stakes and back of one stake until you have woven 1¾ inches in height.

*For the border use the "single plait" which is worked as follows: Moisten stakes and pinch well. Take any given stake numbering it #1 and bring down to the outside; bring down #2 stake in the same manner. (Do not bend these down too closely.)

Take #1 stake, bring to the right, passing it into first open space to inside of basket; bring down #3 stake in *same* space. Bring #2 to the right into the next open space to inside of basket; bring #1 out in *same* space. Bring down left standing stake parallel, which is #4. Take #3 bring to the right and throw into next open space. Bring #2 out in same space; bring down #5 parallel. You will now find you have pairs. Bring the left-hand pair to the right and throw into first space to inside of basket; bring inside back stake out in same space and back standing stake down parallel; bring next outside left-hand *pair* of stakes to the right and through first open space; bring left-hand *pair* from inside of basket out in the same space and bring left-hand standing stake down parallel. Repeat this process until you have brought down the last standing stake. You have now encircled the basket and have turned down the last standing stake. Note the two sets of three reeds on the outside of basket and one pair of two reeds inside. Note also two long loops at the right which were the first two reeds turned down. Take the two left-hand reeds of the left-hand set and bring through the first long loop to inside of basket. Find the second long loop which was the second stake turned down and slip the two left-hand reeds of the (three) left on the outside of the basket through the loop to inside of basket. You now have left three pairs of reeds on inside of basket. Bring the left-hand pair to the outside by laying the reeds in their natural course beside the one diagonal reed which is alone.

Take the right-hand reed of this pair and bring upward through the single *scallop* loop. By doing this you have formed the double scallop to complete the outside of the border. Now take this same reed and pass it to the right one stroke in its natural course to inside of basket. Finish the remaining pairs exactly the same. You will note you still have three single reeds left on the inside of basket. These are now brought to the right one stroke and down through to outside of basket.

For handle of basket cut two pieces #6 Reed 16 inches long. Point the reeds well and force them well into the sides of the basket after finding the exact balance.

The next step is to pierce the reeds forming the bale at either side of the basket just below the border. Take a very pliable #1 weaver

*In working the border actually used in the Flower Basket, use *Single Reeds* where it refers to pairs. See Figure 33. This size basket does not require as wide a border as using pairs would produce, yet the writer thought it would be more helpful to Basket Makers to describe the border using pairs as this width border is often desired on larger baskets and trays. Follow the directions closely, carrying forward *only* Single Reeds where pairs are mentioned in the above directions.

and soak it well. Draw the weaver through the puncture in the handle from the inside of the basket to the outside, then upward through the border and around one of the bale-reeds carrying the weaver across to the opposite bale-reed and around it; then back to the opposite bale-reed taking the extra turn around the bale-reed and so on back and forth until the entire space has been filled with the weaving.

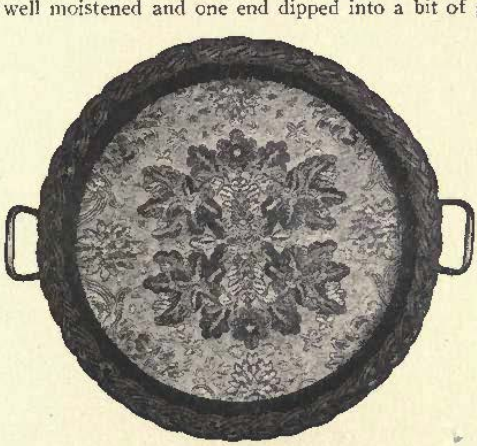
When the arch of the bale has been reached the two bale-reeds are bound together. A set of blocks may be produced by laying two extra pieces of reed on top of the bale-reeds and alternating with the regular binding weaver. When the opposite side of the arch has been reached repeat the same method of weaving and fasten the weaver by passing down through the border and carrying it through the punctured bale and through the weaving for two or three strokes.

This basket may be stained a beautiful Red-Brown by combining brown and mahogany wood-stains, or it may be left in its natural color, but should be given a coat of shellac.

SERVING TRAY.

DESIGNED BY MISS M. L. MCINTYRE.

Below is given a cut of a Serving Tray. This tray is 12 inches in diameter and is so made that the base decoration is interchangeable. Cut forty-three stakes #4 Reed 13 inches long. The stakes should be well moistened and one end dipped into a bit of good glue



Serving Tray. Miss Mary L. McIntyre, Boston, Mass.

and forced well into the holes of the tray frame. Next select four #3 weavers, moisten well and place the four weavers in each of four consecutive spaces and work as follows: Take the extreme left-hand weaver, bring to the right in front of two stakes carrying the weaver through first open space to inside of tray, then back of two stakes and to outside of tray. Follow same method of weaving consecutively with each weaver until one inch has been woven. Also make sure

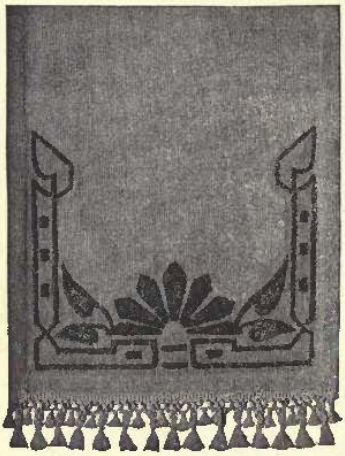
that there is the same number rows of weaving all the way around the tray in order that the weaving may be uniform in height. The tray is bordered by using the flat-plait border described in model called *Flower Basket* which should be followed very closely. Should you desire a little wider border, you may bring the three stakes through from the outside instead of pairs as described in the Flower Basket.

The tray shown herewith is stained a reddish brown by mixing a mahogany and brown wood-stain together until the desired color is obtained. Let the tray stand for a few hours then apply a wax paste with a cloth and polish by rubbing briskly with a dry cloth or brush.

The brass handles may then be added, also the little rubber nails, which are placed underneath to prevent the tray from scratching any polished surface on which it may be used. Fancy cretonnes, embroideries or tapestries may be used for base decoration. Very handsome trays may also be made by using plain wooden tray-bases, but the same directions for the basket work should be followed. The finish may be left entirely to the taste of the maker.

RAFFIA SUGGESTIONS.

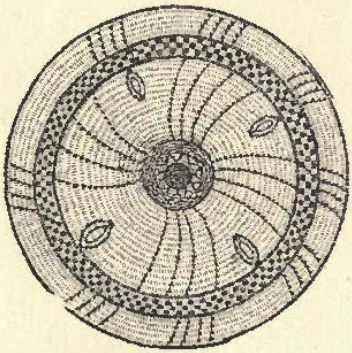
In the hands of a thoughtful worker raffia is a very flexible materiel, capable of being used in many different ways. In the accompanying illustrations are some practical suggestions of useful and ornamental articles.



Embroidery Work.

Crochet Work.

Embroidery Work.



Apache Basket

Palatingwa Basket

SCRAP BASKET OF RATTAN, WITH BAND OF BRAIDED RAFFIA AND COLORED RATTAN

Made by Miss Belle Robinson, Teacher of Basketry in the Indianapolis Young Women's Christian Association.

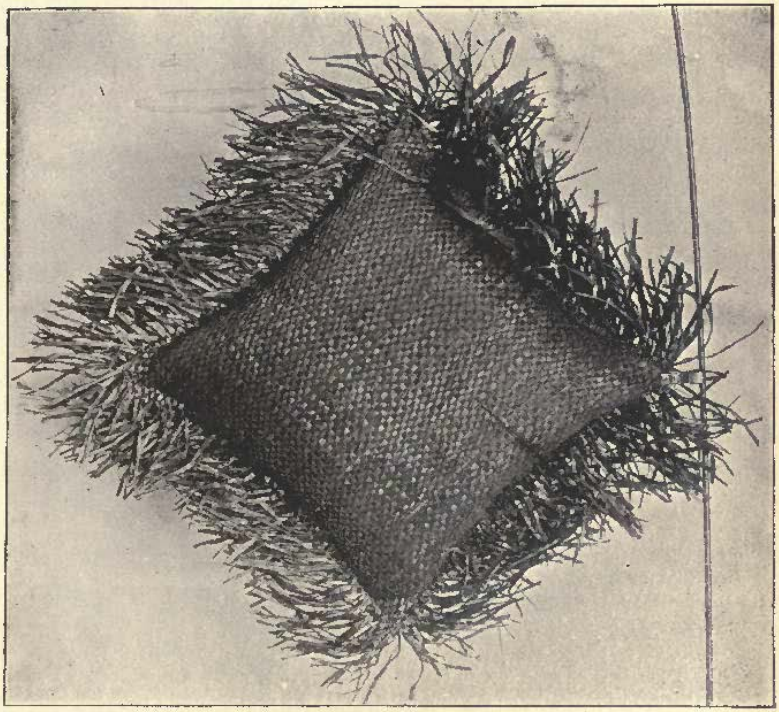
Dimensions.—11 inches high; 6½ inches across the bottom; 7 inches across the mouth; 9½ inches high to the turn where it is 34 inches in circumference.

(Scrap Basket by Miss Belle Robinson, Indianapolis, Ind.)

Materials.—About 5 rattans—No. 5; 22 weavers—No. 3 (white); 3 weavers—No. 3 (dull purple); 3 weavers—No. 3 (yellow brown); (for coloring which directions are given elsewhere): 10 yards braided raffia (natural color), 5-16-inch wide; eight 46-inch spokes—No. 5; one 24-inch spoke—No. 5; sixteen 22-inch spokes—No. 5.

A split center is made of the eight 46-inch, the one 24-inch spokes and twilled weave with No. 3 rattan. When four inches in diameter, insert the sixteen remaining spokes. Weave (twilled) until 6½ inches in diameter, then soak thoroughly and turn the spokes rather sharply with three rows of triple twist. The spokes are flared very slightly, and when once secured at the proper angle, need not be soaked again until 9½ inches have been woven.

This consists of two rows of paired weaving, plain weave until it is



Woven Raffia Pillow,
Work from Hyannis Normal School, Hyannis, Mass.

1¼ inches high. Then three ribbons of quadruple weave and six rows plain weave—all so far of natural rattan; six rows plain weave—yellow brown rattan; five rows plain weave—dull purple rattan; nine rows plain weave—braided raffia; five rows plain weave—dull purple rattan; eight rows plain weave—yellow brown rattan; four rows plain weave—natural rattan; three ribbons of quadruple weave; two rows of

paired weaving when it should measure 9½ inches high and 34 inches in circumference.

Soak the spokes thoroughly, if the basket has been kept a good shape so far, it may be turned upside down in a large bucket of hot water and soaked only to the last weaving.

MERCED NOLASQUEZ, A PALATINGWA BASKET WEAVER, SOUTHERN CALIFORNIA.

Crush the spokes over as nearly flat as possible and weave five rounds more of paired weaving, making seven in all. Eight rounds of plain weave, keeping the spokes still flat, when it should measure eight inches across.

Border.—First row—each spoke back of next spoke to the right, and out; second row—under two spokes to the right; third row—over two spokes and inside.

Dyes.—These are described in the chapter on dyes.

RAFFIA AND REED BASKET MAKING.

GENERAL DIRECTIONS.

There are many and various stitches that can be used in coiled weaves of basketry. A few general directions are necessary in all these.

Needles.—An assortment is useful if a variety of baskets are to be made. Buy a paper each of Nos. 18, 20 and 21, blunt and sharp. You will soon find by experience which you prefer.

Preparing the Raffia.—Soak in boiling water for an hour or more without untying. Rinse thoroughly. Hang up and allow to dry slowly.

Preparing the Reed.—Coil to suitable size, tie in two or three places, leaving enough out to work with; soak this end in hot water for an hour or more until soft and pliable, they dry with a cloth.

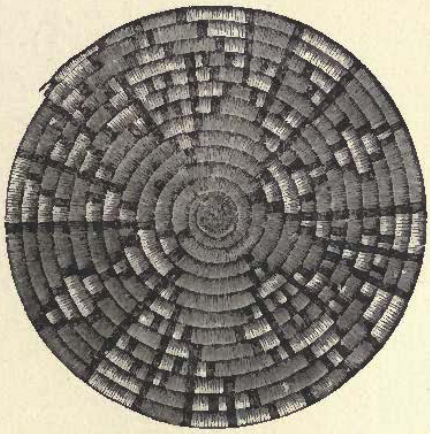


Fig. 33. Hopi Sacred Meal Plaque, made of Yucca Splints and Grass Inner Coil.

Threading Needles.—There is a right and a wrong end of the raffia. The right end, which should be threaded through the needle, is darker and harder than the other. This is the end cut from the parent stem. Just before working if raffia is soaked and wiped, or wrapped in a damp cloth, it is easier to handle.

Beginning Actual Work.—Sharpen the point of the reed, tapering about six inches, just as you sharpen a lead pencil. Now bend the reed to form a coil, thus giving it shape before you use the raffia. Hold the reed firmly in the left hand near the pointed end, and the

piece of raffia, lengthwise of the reed, under the thumb. Beginning about three-quarters of an inch from the pointed end of the reed, evenly wind one strand of raffia to the point. The point should then be bent back, so as to form the smallest possible circle, and the pointed end fastened in this position by taking a stitch firmly around the outer reed. Holding the coil in the left hand, wind the raffia once around the reed, bringing it inward toward the body, passing the needle through the center of the coil, thus making one long stitch. Be sure that none of the reed shows through the raffia stitches. Now as the reed is coiled to make the basket larger one can make the Hopi stitch, the Figure 8 stitch, the Lazy stitch or others that will be described later.

The Hopi Stitch.—This is shown in Fig. 33, just as the Indians use it. Here, however, a number of wisps of grass or broom corn are used instead of the reed to form the inner coil. This stitch can be made only when soft material is thus used, for, as will be seen, the needle must pass through the material of the coil below when sewing the coil above to it.

The Figure 8 Stitch.—This is sometimes called the Navaho stitch. The real Navaho stitch is exactly the same as the Havasupai stitch.

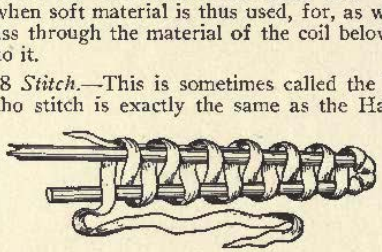


Fig. 34. Method of Making Figure 8 Stitch.

The Fig. 8 stitch is a white woman's invention. No Indian was ever known to use it. Fig. 34 shows how it is made. The thread passes over the outer backward coil, then through between the outer and under, then over and under coil forward, down and back between the two, making the figure 8. Thus it will be seen that each coil is covered twice with the raffia. This must distinctly be remembered when figuring out a design where a different color is to be used. The colored stitch will show not only on the coil upon which one is then working, *but upon the coil beneath.* At first this is a little confusing, but practice soon makes perfect and the difficulty disappears.

The Lazy Stitch.—Wrap raffia once around the outer coil, then once around outer and under, and continue this alternate short and long stitch throughout, as seen in Fig. 35. Many variations of the Lazy stitch may be made, as, for instance, taking two short and two long, three short and one long, etc.

To Splice Reed.—When necessary to splice the reed, wet and shave

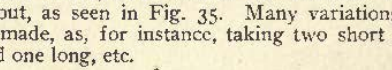


Fig. 36. Splicing Weavers.

the end of both old and new piece, or cut out from both so that they will fit together, as shown in Fig. 36. Bind tightly with small piece

of raffia or thread and if necessary sew through several times in order to insure stability.

To Splice.—When your needle needs replenishing with raffia, wind the new thread two or three times very firmly over the old thread, *a little ahead of the stitch you are making,* so that as you continue to sew the stitches will cover the point.

Introducing Design.—At first it is best to work with but one color. When design is introduced, however, colored raffia must be used. Space, rather than number of stitches, controls design. It is not so much the number of stitches that one must consider, as the amount of space a certain part of the design occupies. Fill up that space with smooth, even stitches regardless of how many there are. Some weavers cut out from pieces of paper the designs they wish to incorporate, and when they are ready to introduce the design they place these "dummies" in the space to be filled and then weave accordingly.

Introducing the Colored Stitches.—This is done exactly as for splicing a new needleful of raffia. When white raffia is to be again introduced, it is not necessary, however, to cut off the colored, especially if the design continues a few stitches or even inches further on. Leave the colored strand on the top of the reed and sew *over* it, thus hiding it until it is again needed.

In this connection let me again remind you that in the Figure 8 stitch your colored thread covers two coils, for the upper and lower part of the 8. Figure accordingly for your design.

The Shape of the Basket.—This, of course, has been thoroughly decided upon beforehand. If straight-edged—that is, perfectly upright—baskets are required, the coils are placed absolutely one above another. If the basket is to flare outwardly as it grows larger, let the upper coil be just a little *outside* of directly even, and move according to the rapidity with which you wish the basket to expand. To make a neck to a basket the reverse process is required, viz., the placing of the upper coil a little *inside* of the coil below.

Putting on the Border.—Point the reed just as at the beginning. Then cover the last row with a simple stitch over and over, sewing into the upper part of the coil beneath.

To Begin an Oval Basket.—Prepare reed and raffia as in any other basket. Decide on length of bottom. Bend reed so as to give desired length. Bend slowly or it may break. If it split the split can be covered by stitches later on.

Now hold reed in left hand, short piece downwards, as in Fig 34. Wrap raffia twice around upper reed, leaving two inches or so loose as shown in the cut to be fastened by being stitched over. Wrap enough raffia around the bent end to make it smooth and even. Now begin the figure 8 stitch, drawing both ends together closely as the stitching proceeds.

BASKET, BY FRED S. BOUGHTON, PITTSFORD, N. Y.

This basket is made of the Figure 8 stitch.

Materials required.—Red raffia, 1¼ skeins; natural raffia, 2 skeins; gray raffia, nearly 1 skein; No. 2 rattan, 5 cents' worth.

The star in the bottom of the basket is of a blue gray color, the rest

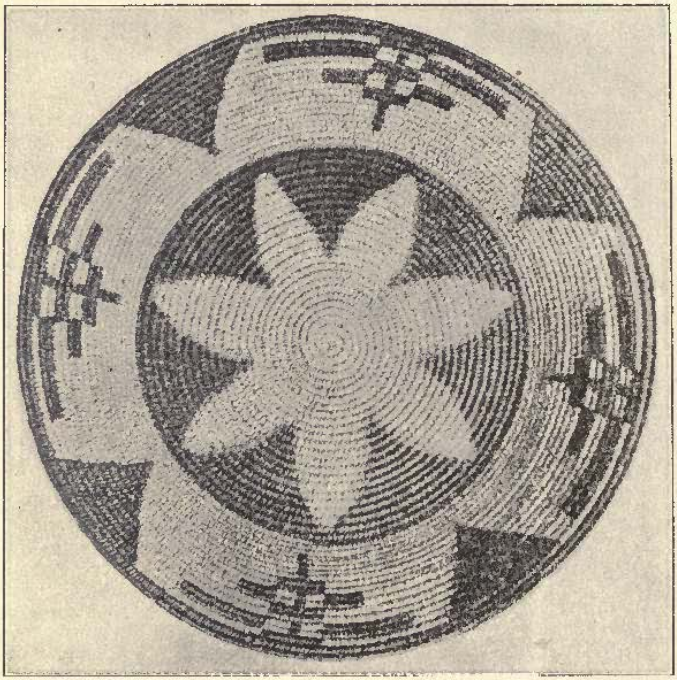


Fig. 37. Basket Made by Fred S. Boughton, Pittsford, N. Y.

of the bottom being of the red of the winter berry. The ground work of the sides is of natural colored raffia with figures of the red.

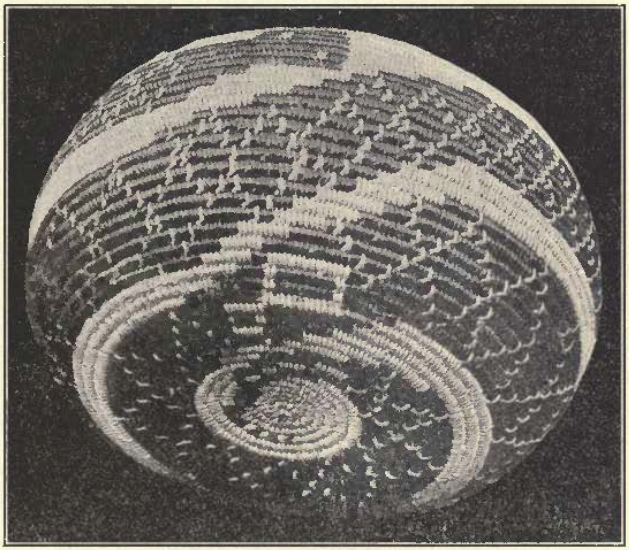
Sizes.—The bottom is seven and one-half inches across (7½) and the top eleven and one-half inches (11½). The basket is three inches high.

The center of the bottom up to where the red begins is ten coils. From that point to the ends of the points is thirteen coils.

The color between the points of the star begins with one stitch of red up to about thirty-eight stitches between the extreme points.

There are eighteen stitches of gray between the first stitches of red, decreasing gradually to one stitch. In putting in the figures in the sides the branching figure begins first, the first part a stem beginning with two stitches of red and continuing up five coils, when the branching begins.

The first stitches of the large points are put in on the next coil at equal distances between the first color and gradually increases from one stitch up to thirty. The stem of the branching figure is two stitches wide and extends up to the top of the figure, but does not show except where the squares of white are put in on each side of it. The first



The Celebrated Rattlesnake Basket.

branch is one inch across, two coils broad and at equal distances on each side of the stem. Above this branch are two squares of white, two coils up and six stitches wide. The next branches begin at the upper points of the first branch on each side, and are three quarters of an inch across, two coils up, meeting and with the next branch enclosing the squares of white in the centre. The next branch is an inch broad (including stem) and two coils up, with two squares of white above that the size of the lower ones. The next branches are two inches across two coils up, meeting the squares of white.

Between the last squares of white and the border is a coil of red one inch wide, meeting a coil of white extending to the red point. The whole is finished with a border two coils up of red.

THE REINDEER BASKET.

(Made by Mrs. E. A. Hayes, 33 Alton Place, Brookline, Mass.)

Though the photographer has made it appear like a plaque, it is really a work basket 9 inches high, 35 inches around the top, 17 inches around the bottom.

The stitch used is the figure 8, made over No. 4 reeds.

Materials used.—One lb. natural raffia, ¼ lb. dark brown, ¼ lb. black.

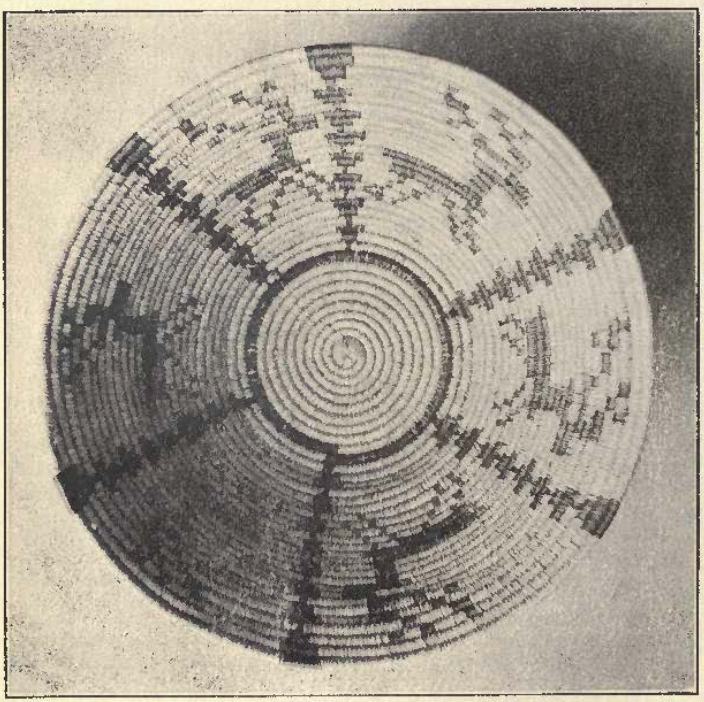


Fig. 38. The Reindeer Basket, made by Mrs. E. A. Hayes, Brookline, Mass.

LAZY STITCH.

With illustrative basket made by Mrs. J. H. White.

This is a popular stitch and received its name from Mr. E. E. McLeod, of Bakersfield, Cal., in describing one of the baskets of his fine collection of Kern County weaves.

It is very doubtful whether this name for this stitch was ever heard by an Indian. The Kern County and other Indian weavers (Monos,

Fig. 39 Waste Basket, made by Mrs. J. H. White.

Paiutis and Yokuts) say it is used because of its beauty. When a basket is not required to hold liquids it is quite common, especially when a woman needs it speedily, to make it this way.

Starting the Basket.—Begin exactly as described in General Direc-

tions. As soon as the start of the tiny coil for the bottom is made we are ready for the lazy stitch. This is simply a long and a short stitch. The long stitch goes over two coils, the short over but one. It is a rapid method of weaving. It is utterly immaterial whether the stitches are taken *towards* you or *from* you. Some Indians work one way, some the other. Follow whichever method you find to be most practical.

Dimensions of the Basket.

	Inches.
Diameter of bottom	7
Diameter at largest part about	9¾
Circumference at the same point	32
The circumference of the upper rim is	29
Height of the basket	11½

Material Required.—This is approximately as follows:

¾ lb. No. 6 reed.
½ lb. Natural raffia.
¼ lb. Black raffia.
¼ lb. Olive raffia.
¼ lb. Brown raffia.
¼ lb. Dark Indian red raffia.
¼ lb. Light Indian red raffia.
¼ lb. Light blue raffia.

The colored raffia was dyed with vegetable dyes and was procured from the Arts and Crafts rooms, Hingham, Mass.

Design.—To make the design on your basket, cut out a piece of paper the size and shape of the basket. Then outline upon it the design required. This will then act as a guide as you weave.

The Lazy Stitch.—This is best made by seeing that when the second coil is reached the long stitches are placed over the corresponding short ones except where it is necessary to add stitches for the purpose of widening as the coil grows larger, and, therfore, requires a larger number of stitches to cover it.

Widening.—This is done by placing two long stitches over one short one. I find it best to work always from the right to the left. Continue thus until the flat disk has been produced of the size desired for the bottom, viz., 7 inches.

Making the Sides.—The sides of the basket are made by placing the reed directly above and outside of the last coil. To make the sides perpendicular the reed should be held exactly above the last row of stitches; to increase the diameter or produce a flaring shape the reed should be held above and a little outside of the row last made, and to diminish the circle or to shape the basket inward the reed should be held above and a little inside of the last row.

Introducing the Color.—Place the colored raffia under the inside of the reed and take at least one short stitch over it to hold it in place. The colored raffia should be carried inside the stitches lengthwise of the reed except at the places where it is desired that the color should appear, then as many stitches should be taken with it as the design requires.

In this way many colors can be used at one time, the colors not used in any stitch being concealed under it.

Finishing Off.—Put the edge on the basket as given in General Directions, but as soon as possible begin to experiment on different colors and styles of finish.

THE MAIDEN-HAIR FERN BASKET, LAZY STITCH.

The basket here pictured was made by one of the best weavers of New England, Mrs. M. G. Jones, 15 Landseer St., West Roxbury, Mass. At my request Mrs. Jones has written full instructions for the making of this basket. She writes: "The following description may seem to many as needlessly minute, but when one meets a lady who has picked out her instruction from books, and thus taught herself to do left hand work with her right hand, it seems time to be very explicit."

It will be well for weavers to compare these instructions with what I have written in the General Directions.

Materials required.—Reeds No. 2, 3 oz.; Raffia, Natural, 2 oz.; raffia, green, 1 oz.; raffia, seal brown, 12 strands.

Size of basket.—Diameter of bottom, 6 inches; height, 3½ inches; circumference of largest part, 26½ inches; diameter of top, 6¾ inches.

Fig. 40. Maiden Hair Fern Basket, made by Mrs. M. G. Jones.

Select a pliable reed—try it two or three inches from the end, to find if it bends easily without breaking. Soak it a few moments in warm water—longer in cold water. Hold it firmly in left hand about ten inches from working end, and draw it several times between thumb and finger of right hand, to make it yet more pliable.

Reeds coil naturally in one direction; take advantage of that in preparing the point of the reed, by taking from the thickness on both sides, beginning about an inch back from the end, cutting it to slant gradually to a thin shaving. Take nothing from the width.

Divide the raffia into two strands. Thread a No. 20 blunt tapestry needle with one of the strands. Take the prepared reed in the left

hand, with the prepared point toward the right hand. Place the knot-end of the raffia (though there must be no knots in raffia) about two inches from the end—hold it firmly with left hand thumb and finger. Now wrap the shaving inch of reed smoothly, over and over—from you—to within one-eighth or less of an inch from the end. This wrapping is to keep the reed from breaking or splintering. Now turn back just the unwrapped bit of reed, towards the left hand, and over the wrapped part of the reed. Turn it again and again until the shaved part has been rolled to meet the full size part of the reed. We will call this the button part of the coil. The rolling of the thin part of the reed makes a button of right proportion to the reed. Keep it in smallest space possible, by pressure of left hand thumb and finger, while sewing over and over (bringing the needle up from below) two or three times until *sure* the obstinate little point is securely fastened. Now begin to cover the button with the regular figure 8 stitch, thus:—Wrap the raffia over the button-reed, from you, taking it down between the button-coil and upper reed—up over the upper reed—toward you—back again, from you between the button and upper reed. This time, bring the needle up through the center of the button, and wrap again the button reed as at first. Continue thus, until you have worked around the button to where it was commenced. Then instead of coming up through the button, take one stitch ahead between the two reeds, and you are started on the continuous coil.

Be careful to draw each stitch firmly to its place, by hand, not from the needle's eye, as that wears and breaks the raffia too much. Be sure and cut off fraying raffia as soon as it appears. If left without cutting, it may be drawn into the next stitch, giving a rough look to the work. In taking the first regular stitches in the button, coil the reed, a little bit, that when you draw the raffia firmly into place it may fit smoothly to the coil. Do this for every stitch while the coil is small, and work it smoothly all through the basket. In working the button around to where it was commenced, it is better to take one stitch less, to fill it, than one too many, as that gives a long stitch which looks quite out of place. If the raffia has not filled the center of the button, and if by pressure of thumb nails the raffia cannot be pressed to fill the space, better cut it off and try again.

When a new thread of raffia is required, be sure that the last stitch of the old raffia is left off on the lower half of the figure 8 stitch, the needle from you, between the upper and lower reed; unthread the needle, thread again with new. Take up the basket ready to sew. Draw the old thread of raffia closely over the tip of the first finger of the left hand, place the end of the new raffia over the old—hold them both *firmly*, between the tips of the first and second fingers of the left hand. Now take the new raffia, and wrap the upper reed, toward you—twice, the second wrapping to come *close up* to the last stitch of the old raffia. This wrapping makes the upper part of the 8 stitch. Work two stitches, before loosening the firm hold on the raffia ends—then carry the ends close to the upper reed, towards the left hand. Fasten stronger by sewing over them several regular stitches, then cut them off.

To introduce color, start the same as new piece of raffia. Carry the natural raffia along the upper reed, under the colored raffia, until it is

needed again, when, put under the color, and bring out the other; always leave off stitches on the lower part of the figure 8 stitch as new color is added. Notice how nicely, as the raffia is wrapped towards you (for the upper part of the figure 8 stitch) it brings into and keeps in place the raffia just left off.

To shape the basket always start along the line up from where the coil was commenced, and for this reason, after working an inch or two in diameter on the bottom of the basket, mark the place by sewing in a basting of colored raffia, to readily locate the place where colors should begin, the sides turned up and the basket finished.

The worker is to hold the outside of the basket toward her. This basket is to flare. Sew a few inches along the reed as usual—then

Fig. 41. Baskets by Miss Nelly Sutton, Detroit, Mich.

press the reed upward, to flare very slightly—and so on, every few inches. This gives a more symmetrical shape for a beginner than to trust to *holding* the reed in place. When the proper flare has been reached, begin, at the right place (along the line up where the coil was commenced), to press the reed—after it has been worked a few inches—*slightly* straighter up—the next time around, straighter still—the third time quite straight up, the next time begin to press the reed slightly inward and so on for several times around, when you can press it inward almost flat, if it will conform to proportion and symmetry. Doing this by inches, is to make sure the reed is not sewed half way around the basket, when it would not so readily yield to pressure.

To finish off a basket, slant the upper part of the last reed for two or

Fig. 42. Jewel Basket, with Cover; by Miss Ballou, Rutland, Vt.

Fig. 43. Inside of Jewel Basket, by Miss Ballou.

three inches, down to a point, making sure that the point is in line with the beginning of the coil. The last few stitches can be sewed over and over. Take the last stitch backward and cut close.

The design on this basket was taken from nature. A leaf of maidenhair fern was pressed, a section sewed on paper, and placed before the worker to do the best she could with it.

LAZY STITCH BASKETS.

By Miss Nelly Sutton, 415 Woodward Ave., Detroit, Mich.

The accompanying photograph of baskets represents a bowl-shaped basket made of No. 2 reed and raffia in natural color and dark brown. The stitch is the "lazy stitch." The basket is 4½ inches deep and 9 inches diameter at top.

The other basket is done in the same colors on a No. 4 reed in plaque stitch. I sewed some twine in with the reed to sew to.

JEWEL BASKET.

Made by Miss Ella M. Ballou, Quinn Building, Rutland, Vermont.

Size of basket.—Diameter, 4 inches; height, 2 inches.

Material used.—No. 2 reed, raffia, natural, olive green and seal brown.

The bottom of the basket is a simple coil of reed woven in "lazy stitch," with natural raffia, which is split twice (more if the pieces were very large), twenty-one coils completing the bottom; for the last coil, green is used. The green is continued after the upward turn for the side is made, for one coil, when the diamond design is commenced.

For the design the stitches are divided as follows:

1st coil: 4 stitches of green, 1 of brown.
2nd coil: 2 stitches green, 3 of brown.
3rd coil: 1 stitch of green, 4 of brown.
4th coil: 1 stitch of natural, 4 of brown.
5th coil: 2 stitches natural, 3 of brown.
6th coil: 1 stitch of natural, 4 of brown.
7th coil: all natural.

Then five coils "knot stitch," and eight coils "lazy stitch" completes side of basket.

The cover is commenced with a spider's web in green; then two coils lazy stitch in green; six coils lazy stitch in natural; four coils knot stitch in natural; three coils lazy stitch in natural; four coils knot stitch, natural with *green knot;* six coils lazy squaw stitch in green. This completes top of cover, and the overlapping edge or rim of cover is a repetition of the diamond pattern employed in bottom of basket, the finish being one coil of knot stitch with natural raffia.

Lining of green silk shade lighter than raffia.

LAZY STITCH BASKET.

Made by Mrs. F. A. Mangold, 914 E. 10th Ave., Denver, Colo.

Dimensions.—Bottom diameter, 5 inches; top diameter, 5½ inches; middle diameter, 10 inches (at 6½ inches high); height, 9½ inches; weight, ¾ pound.

Materials used.—10 lengths of No. 4 reed; 4 bunches of raffia, natural; 2 bunches of raffia, red; 1 bunch of raffia, black.

Fig. 35. Lazy Stitch Basket by Mrs. F. A. Mangold, Denver, Colo.

Make bottom as in General Directions, using the lazy stitch. When it is of the required size begin pattern where you begin to turn basket up. Mark off seven divisions and take first two stitches in black, then two in natural raffia, four in red, two natural, two black, fill in with natural raffia to next division, and proceed as before. When four rounds like this have been made, move forward two stitches, thus forming the spiral. Stitch off top in black.

LAZY STITCH WORK BASKET.

Made by Mr. A. A. Dodds, 325 Lenox Ave., New York.

Dimensions.—It is 6 inches in diameter at the base and nine at the top, and 5 inches high.

Materials.—No. 3 reed, one pound of natural raffia, ¼ pound of brown, and ¼ pound of green.

Make the bottom as in General Directions until you have 25 coils, or a base of 6 inches in diameter.

After turning up the sides continue until you have five reeds up from the base. Then thread the needle with green and sew around

Fig. 44. Dance Basket, by Mr. A. A. Dodds, New York.

twice. Then use brown for four, natural for three, brown for four and natural for eleven for twice around till you form the feet of six men. Then use two stitches for each leg and go around five times for the legs. The width of the body is eight stitches of brown. The third time for the body the hands are begun by making one brown stitch half way between each body. After first time take one stitch on right and one on the left of the joining of hands for arms and continue this until the arms meet the body 13 rounds farther up.

For the neck 3 stitches of brown for two rounds, 5 for the head 2 rounds. Then work three times around with green, and 2 with the natural, and the basket is complete.

LAZY STITCH WITH SOFT INNER COIL.

With illustrative basket made by Mrs. Charlotte Wilkinson, 86 E. 4th St., Corning, N. Y.

In the Lazy Stitch baskets before described the material of the inner coil has been *reed*—a hard substance. The Indians used a large variety of substances; generally whatever is most convenient and best adapted to their purpose. White weavers use raffia, or wild grasses or straws.

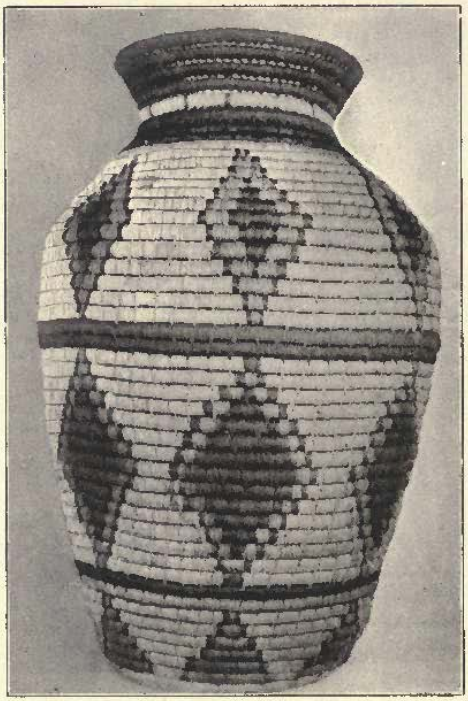


Fig. 45. Lazy Stitch Basket, with Soft Inner Coil, by Mrs. Charlotte Wilkinson, Corning, N. Y.

There is no difference in the method of making the stitch. It only requires a little different manipulation owing to the soft nature of the coil. Also the weaver must see that as the material decreases the size of the coil *it is replenished.* The coil *must* be kept of uniform size.

Size of Basket.—Top, 6 inches in diameter; bottom, 5 inches in diameter; coils, 5-16 inch in diameter; circumference of largest part 30

inches; height, 15 inches; diameter of neck, smallest part, 4½ inches; it is ten inches high before commencing to draw in for the neck.

Starting the Basket.—Take five or six threads of natural raffia, hold firmly, wind the end with raffia for about an inch. Then make the button coil as tightly as possible. Now wind the coil, say five times, then fasten to the button with the long stitch.

(It will be noticed that Mrs. Wilkinson does not make *one* short and *one* long stitch, but *five* short and *one* long. See the photograph for the result.)

Four coils from the center, divide the basket into four parts and begin by using two threads of orange and two blue, the next row make blue the width of orange and blue together, putting orange on each edge. The third row make blue the size of first row, with orange the same as first row. This makes a neat little figure for the bottom.

For the Sides.—Follow General Directions. In making the turn to shape the bottom it should be done so gradually that it won't make the basket one-sided. After weaving eight coils from center commence to shape for the sides. Three coils plain weaving will make it ready for the next figure.

Divide the circumference into seven equal parts, beginning seven half diamonds. The center is all blue bordered, with two threads of orange. This half diamond is drawn to a point by six coils.

On top of this figure make a whole row of blue, then a row of orange. The whole diamonds are bordered with first two threads of orange, then two blue, two green, widening the figure with red, and black in center row, for three rows, making a little figure of black in center of diamond. Again border this row of diamonds with orange and blue. The top diamond looks very different from the lower one, using the same arrangement of color only making the blue the most prominent instead of the red.

Narrowing for the Neck.—This is done by following the reverse process of enlarging. Place the *new* top coil a little inside the coil beneath, sewing it firmly into place. The next coil press in still further until the basket is narrowed to the required shape.

The Neck.—This is made by keeping three coils about even, one exactly above the other, before flaring again for the top. The neck is in natural color, divided in sections by two stitches, each of orange, blue, green and red.

The Top.—The top is finished with four complete coils of color. First, red, then orange, then green, then blue, flaring as described.

The color scheme for the lower part of the neck, or really the *shoulder,* as will be seen from the illustration, consists of four complete coils. The first is blue, next orange, next green, next red.

Finishing the Top.—Taper the inside of the coil down to a point, then finish as per General Directions. I have given Mrs. Wilkinson's color scheme as she describes it, but cannot commend it.

THE KNOT STITCH.

This has sometimes been called the Lace Stitch, and the Mariposa Stitch. The Mariposa Indians never have used it, as far as I can learn, hence it is merely a pretty name. And that is good!

Starting the Basket.—Begin exactly as described in General Directions.

The Knot Stitch.—There is really very little difference between this stitch and the Lazy stitch or the figure 8, except that in this it is best to wind towards you when making the coil. Bring the threaded needle up between the new and old coil to the left of the stitch that last bound the two coils together. Then *cross over this stitch* to the right, going *down* between the two coils on the *right* side, then up, back of the crossed stitch, and over so as to wrap the upper reed again. Then wrap the two reeds, make the up stitch on the left, cross over, down between coils on the right, up, back of crossed stitch, and over again. Thus is made the knot stitch. It is simply crossing of the long stitch of the lazy stitch, and is capable of being made into every form and design of any of the other coiled stitches.

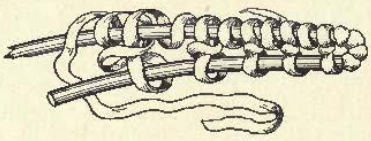


Fig. 46. Method of Making the Knot Stitch.

Color is introduced in this stitch as in the other stitches. See General Directions, not forgetting that *each stitch* goes over each coil *twice*, and that it is not the number of stitches that count so much as the space to be filled. In other words, fill up the space required for your design in the color chosen regardless of the number of stitches.

This knot stitch can plainly be seen in the basket made by Mrs. Batchelder and pictured in Fig. 47.

For an Oval Basket.—This weave is well adapted for such a basket as pictured in Fig. 2.

Material required.—5 ounces No. 4 reed; 2 ounces black raffia; 2¼ ounces natural raffia.

Measure off about 6½ or 7 inches of the reed, and, after soaking in hot water and wiping dry, bend so that the main length of reed and the measured off piece lie side by side.

Carefully prepare the raffia so that the strands are of equal width. This is important, as the beauty of a basket of this nature depends largely upon the perfection of the stitch.

Beginning to Weave.—Take the bent reed in your left hand, so that short end comes next to you, pointing to the left. Now begin wrapping, with the long end of your raffia (*not the needle end*), towards you, over the bend of the reed, three or four times, until all evidence of cracking or splitting is covered. Now make one Lazy Stitch, which consists of a short stitch over one reed, and a long stitch over both reeds. Now proceed to use the Knot Stitch as already described, until the base is the size required.

For rounding up the sides, introduction of color, etc., see General Directions.

BASKET OF MIXED STITCHES.

RAFFIA SCRAP BASKET.

By Mrs. Alice M. Batchelder, Exeter, N. H.

Materials used.—One-half pound No. 4 reed, six ounces natural raffia, two ounces old blue, one-half ounce black, the colors being vegetable dye.

From start to finish there are one hundred and three rows of weaving.

The center, which forms the bottom of the basket, is the starting point. Wet a No. 4 reed, when pliable coil so the center or ring will be ¾ of an inch across. Take a piece of natural raffia, wind the ring, then sew with the figure 8 stitch, going from one side to the other to fill in the hole having four stitches on each side, hold the reed firm and sew four stitches on opposite side of ring with coil between.

Coil raffia round the reed until it reaches the first four stitches; sew one stitch between each stitch and over the coil, making the stitches even distance apart (coil the raffia once over the reed after every stitch), increase the stitches as may be necessary to keep it flat until the tenth row, make three stitches, then coil these three stitches, having the coil same length as the three stitches (this is lazy stitch), continue to end of row.

Eleventh row, two stitches above the three, coil between.

Twelfth row, one stitch over two, coil between.

Thirteenth row, two stitches over one, coil between.

Increase stitches on every row until they meet all round, then decrease same as you increased (forming diamonds).

We have now reached the twenty-fourth row. This is sewed in the figure 8 stitch.

Sew these stitches very close together, sewing very tight on each, four sides of the circle, gradually holding the outer reed a little farther out as you near the four corners for we are beginning to make the bottom square.

Cut four pieces of No. 4 reed four inches long; cut the end of each tapering to a point. When the reed is sewed round the next time one four-inch piece is sewed in between the two reeds, the outer reed is very slightly cut on the outer edge to make it turn more square, the reed being sewed in the corners. Then cut four more four-inch pieces as before and put in the corners the next time round. When this row is finished we have an 8¼-inch square for bottom of basket.

We are now ready to make the sides. Hold the reed on top of the preceding row and cut slightly on outer edge of reed every eight and one-half inches and sew same as in the beginning of basket.

Third row, lazy stitch begins, making groups of three stitches with coil over two stitches.

Fourth row, two stitches over three.

Fifth row, one over two.

Sixth row, two over one.

Seventh row, two between each two.

Eighth row, two between each, with one blue stitch between each two stitches in preceding row excepting in the corners.

Ninth row, two blue stitches one each side of corner, one white

Fig. 47. Basket of Mixed Stitches, by Mrs. Batchelder, Exeter, N. H.

stitch, coil, make one blue stitch each side of every other blue one in preceding row, coiling with blue between.

Tenth row, corner three over two of blue, coil white until you come to the one blue stitch which you coiled over in preceding row, make

two blue stitches, coil with white to next one blue stitch over which make two blue (repeat to end of row).

Eleventh row, corner, blue four over three, coil white until over first blue stitch, then make a white stitch with a cross stitch over the stitch. Make these stitches every half inch on sides of basket.

Twelfth row, corner blue five over four, coil white, make a stitch with a cross stitch each side of one in preceding row.

Thirteenth row, corner blue six over five, coil white, make one white stitch with cross stitch between each two in preceding row.

Fourteenth row, corner blue, seven over six coil white to second stitch in preceding row, make one blue stitch with cross stitch each side, coil white to next stitch in preceding row, make two white cross stitches each side of stitch, coil white to next, make two blue, coil white to next, make two white, coil to next, make two blue, coil to corner. This makes three groups of two blue cross stitches, two groups of two white cross stitches.

Fifteenth row, corner one white, one blue, one white, one blue. (The first white is exactly in the corner.)

Coil white to center of two blue, make one blue cross stitch, coil white, make one white between two white of preceding row (repeat).

Sixteenth row, corner one black, each side of the white, one blue in same stitch, one white, one blue, coil white to center of preceding coil, make a cross stitch, coil to one blue, make one white cross stitch each side, coil to next, make two blue cross stitch, coil white to next, make two white cross stitch (repeat).

Seventeenth row, this reed is not cut at corners but held firmly (wet the reed before bending).

Corner five blue, coil white, two cross white stitches over one in preceding row, coil, one white cross stitch over two in preceding row, coil, three blue cross stitches over two (repeat).

The basket is gradually held in on each succeeding row and the design can now be followed from the photo; the darkest stitches are black; the light, natural or white; the medium shade old blue.

Measurements.—The basket measures twenty-six (26) inches half way up; twenty-four and a half inches just before beginning to widen. The last row measures thirty-six inches. Height twelve inches.

Remarks.—The old blue in this basket I dyed last spring while experimenting with dyes of various colors.

I intended to have the bottom of basket photographed, for it is original. I have never made or seen a basket like it. The shape and design are both original. The design does not appear as handsome in the photograph as it is in the original.

THE HOPI STITCH.

With illustrative basket by Mrs. Alice F. Rollins, 520 E. 14th St., Minneapolis, Minn.

This stitch is exactly the same, in main principles, as the Havasupai stitch next described, except that the outer wrapping is of soft and pliable yucca fibre, instead of the harsher willow splints. The Hopi uses

for the filling of the inner coil the stems of a native broom corn. The white weaver may use raffia, or fine straws or any native grass stem that she finds in her immediate neighborhood. Some most wonderful effects in geometrical designs can be made on flat plaques by this weave, as will be further shown by the illustrations.

To begin the basket make a button coil as described in General Directions and in the description of the Havasupai stitch, filling the coil with

Fig. 48. Kuch-ye-amp-si, the Hopi Weaver.

as much soft material as you desire. In Fig. 48 Kuchyeampsi, the Hopi weaver, is shown at work on a basket of this character. The white weaver, however, uses a needle of threaded raffia instead of the bone awl and yucca splint of the aborigine.

The button of the coil made, the weaver brings her raffia around the coil, taking care to see that it lies flat on the grass, and that it is drawn

as tight as possible. Now, turning the basket over she thrusts the needle through the *upper* edge of the coil below, pulls the thread tight and then makes another wrapping of her raffia thread, sews through the coil again, and so on, *ad libitum*. This is the whole secret of the Hopi stitch.

To Introduce Color.—Sew the natural raffia a few coils further than needed. Then insert the color two or three stitches further back, sewing over the natural raffia and thus binding it tightly in place. When you wish to abandon the color and go back to natural, or some other color, do likewise.

Making the Design.—In the flat plaques of the Hopis the geometrical designs used are most marvellous in their variety and interesting diversity. Every possible combination has been worked out by these ingenu-

Fig. 49. Hopi Stitch Basket, by Mrs. Alice F. Rollins, Minneapolis, Minn.

ous people. Suggestions can be taken from the following pages. Decide on the size you wish the plaque to be, then cut a sheet of paper to correspond, divide into four or six or as many compartments as desired, draft upon them the design to be copied, and as the work progresses lay the paper over the basket and introduce color accordingly.

For other than a flat plaque follow General Directions.

Mrs. Rollins's basket is made entirely of raffia, and the following is her own description of how to make it.

Material.—Raffia, white or uncolored, ¾ pound; raffia, brown, ¼ pound; 1 crewel needle, No. 2.

This basket is made by trimming the raffia weaver around a coil of raffia and sewing into each stitch below the coil.

The beauty of the basket depends upon the uniform size of the coil, the smoothness of the twining and the evenness of the stitches.

To start the basket select enough raffia to make the coil ⅜ of an inch in diameter, putting the large ends together. Dampen the raffia and pull it through the hands to make it smooth. Hold the large ends between the thumb and fingers of the left hand. Cut them even. Thread a *small* strand of the brown raffia into the crewel needle. Place the end of the brown raffia along the end of the coil and wind *towards* you for about an inch from the end of the coil and fasten together into as small a ring as possible. Coil to the *left*, twine around the coil once and sew into the stitch below, putting the needle through the coil from the *front*. *Do not let the coil vary in size.* Put more raffia into it as it is needed to keep the coil uniform. Sew in this way until you have 3 coils or rows of the brown. Lay the brown raffia along the coil and take up a white strand from the coil. Sew with the white raffia until you have 5 rows of *white*, then change to the brown and sew 1 row, then sew 4 rows of the white.

This finishes the bottom of the basket, which should be perfectly flat and about 8 inches in diameter. Now hold the coil perpendicular to the bottom and sew 1 row of white beginning the side of the basket. Divide this into 8 equal parts, marking the divisions plainly and begin the pattern at any point of division as follows:—Sew 6 stitches of the brown, then 7 stitches of the white, then 6 stitches of the brown, then the white to the next point of division.

Repeat until you have the beginning of 8 figures. It is very important to start the pattern correctly as upon this depends the beauty of the basket. *See Illustration.*

Second row, sew with the white raffia until you have 3 stitches left of the brown beginning the pattern, or first figure. Then lay down the white and take up the brown raffia (passing the color not in use along the top of the coil). Sew three stitches directly over the 3 brown stitches below, then sew 7 white stitches, 3 brown stitches, then white stitches until the next figure is reached. Repeat until all figures have 2 rows.

Third row, this is made the same as the second row only there are 4 stitches of the brown, the first beginning a little to the right of the brown stitch below and ending a little to the left with 6 white stitches in the middle.

Fourth row, this has 5 brown stitches, 5 white stitches, 5 brown stitches, then white stitches to the next figure.

Fifth row, this has 6 brown stitches, 4 white stitches, then 6 brown stitches with white stitches to the next figure.

Sixth row, this has 7 brown stitches, 2 white stitches, then 7 brown stitches, then white stitches to the next pattern. Repeat until all figures have 6 rows, then sew with the white to within 6 stitches of the first.

Seventh row, figure started. Now sew 3 brown stitches, then 3 white stitches, then 17 brown stitches, then 3 white stitches, then 3 brown stitches, then white stitches to within 6 stitches of the next figure. Repeat.

Eighth row, this has 3 brown stitches, 3 white stitches, 16 brown stitches, 3 white stitches, 3 brown stitches, then white stitches to the next figure.

Ninth row, this has 3 brown stitches, 4 white stitches 15 brown stitches, 4 white stitches 3 brown stitches, with white stitches to the next pattern.

Tenth row, same as ninth row, with 3 brown stitches, 5 white stitches, 14 brown stitches, 5 white stitches, 3 brown stitches.

Eleventh row, 3 brown stitches, 4 white stitches, 15 brown stitches, 4 white stitches, 3 brown stitches.

Twelfth row, same as the eleventh row.

Thirteenth row, beginning with the brown, sew 29 stitches, the last one coming over the last one of the brown stitches in the row below.

Fourteenth row, sew 12 white stitches over the 12 brown stitches, then 5 brown stitches over 5 brown stitches, then white stitches to the next figure. Repeat on all figures.

Fifteenth row, sew 15 stitches of the brown, having 5 stitches in the middle of the 15 stitches directly over the 5 brown stitches sewed in the fourteenth row. Repeat upon all figures having white stitches between the figures.

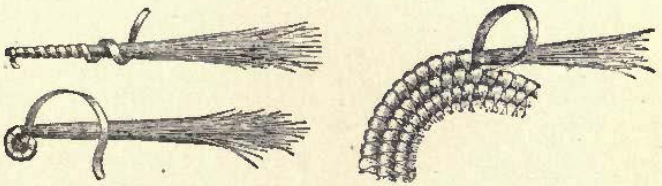
Sixteenth row, sew 5 brown stitches directly above the middle of the 15 brown stitches in the fifteenth row. Repeat until all figures are finished.

Now sew 2 rows of white raffia. When within 2 inches of the point to end coil cut it to a point and join it, as shown in the illustration. (The side of the basket flares a very little. The one in the illustration being 8 inches in diameter at the bottom and 10 inches at the top.)

Finish the top with the "herring bone" border of brown, which is made as follows: Thread the needle with brown raffia (not too fine). Hold the outside of the basket towards you and sew through the top of the coil, from the inside to the outside, bring the raffia backwards and sew through the coil ¼ of an inch back from the starting point. Now put the needle upward and sew through the coil ⅛ of an inch in advance of the starting point. By sewing backward and forward in this way we get the braided effect, as shown in Fig. 53.

THE HAVASUPAI STITCH.

This is one of the commonest of the coil stitches used by the Indians, but most white weavers have ignored it for the easier and



Figs. 50, 51, 52. How to Make the Havasupai Stitch.

white woman's Figure 8 Stitch and the Lazy Stitch. Fully four-fifths of all coiled baskets made by the Indians are made by this weave.

The Havasupais are an interesting people. Their name is made up as follows: *Ha-ha,* water; *vasu,* blue; *pai,* people; or, "the people of the Blue Water." In my books entitled "In and Around the Grand Canyon" and "The Indians of the Painted Desert" I have told somewhat of their life and marvelously picturesque home.

Preparing the Material.—For the inner material of the coil the Indian uses unpeeled or peeled willows the size she desires, generally the latter. For wrapping the coil, splints of willow, made by splitting the willow into three equal parts and then shaving down the pith side, are made. Her tool, instead of a needle, is a bone awl. Now the white weaver may prepare these materials if she be willing to go to a little trouble, and the use of the bone awl or steel bodkin or pricker will soon become familiar. Her work will then more nearly approximate real Indian work than any ever yet attempted.

Making the Bottom of the Coil.—Figs. 50 and 51 clearly show how this is done, no matter whether the material of the inner coil be a wisp of loose straws or stems, or two or more fine willows. Here it will be observed that the coil is wrapped but once, and that instead

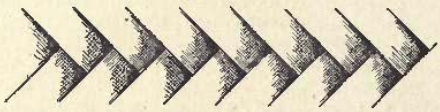


Fig. 53. The Herring Bone Finishing Stitch.

of circling the lower coil as well as the new one, as in the Figure 8 Stitch, a hole is made with the awl through the upper part of the lower coil, and the willow split threaded through that and drawn tight.

Continuing the Coil.—This is shown in Fig. 52, where the wrapping split circles the outer coil and is threaded through the lower one by means of the awl.

Inserting Colored Splints.—There are two methods of accomplishing this. The first is to draw the natural thread through the pierced hole to the *outside* of the basket. Then through the same hole and *over* the natural thread, bring the colored splint, leaving a small end *inside* the basket. When the basket is finished these ends are cut off as close as possible.

The other method is the one followed often by the Southern California Indians in their making of a coiled weave basket. The colored thread is pulled through the same hole as the end of the old thread, and then as the coil is made the end of the colored thread is thrust under the splint that wraps the coil, *thus making the end a part of the inner coil itself.* In changing again to another color the end is thrust under two or three stitches already made, drawn tight and then cut off close.

The Herring Bone Finish.—The story of this stitch is fully told in *Indian Basketry,* pages 109 and 110. It is made by a single splint which is passed under the sewing of the last coil and then drawn over

it and backward. It is then passed under again, upward and forward, first in advance of the starting point. Thus by sewing backward and forward, as one coils a kite string, this beautiful braided finishing stitch is produced. It is not only beautiful: its usefulness is manifest when it is known that a basket finished off this way will stand several years more of hard work than if finished in the ordinary method.

OPEN POMA STITCH.

I prefer to call this open Poma stitch than give it an Indian name that is somewhat misleading. The Pomas have a large number of different stitches, which are described in detail in my *Indian Basketry*. Their word bam means the same as our word reed. Their Bam-Tsu-Wu baskets are made of three bams. The baskets here to be described can be made of three bams for the inner coil, or of grasses, corn

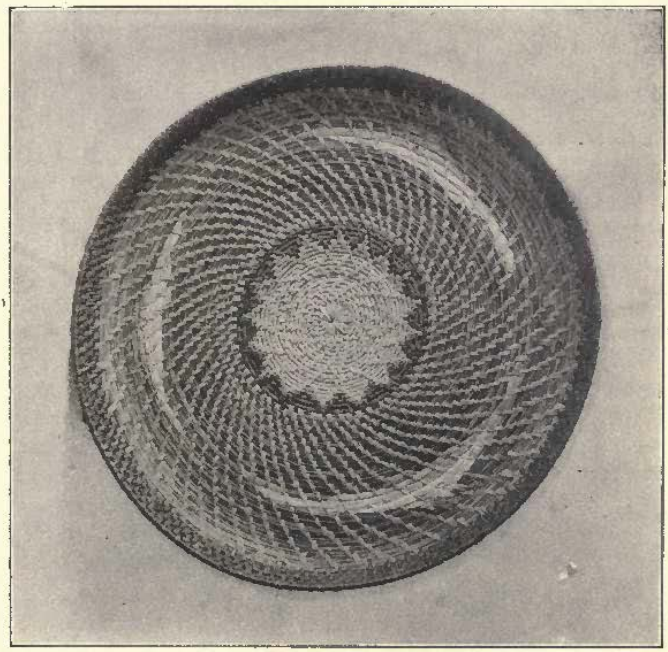


Fig. 54. Swale Grass Tray, by Gertrude Ashley, Deerfield, Mass.

husks, or raffia or whatever the taste and skill of the weaver may desire. The exquisite basket shown in Fig. 54 was made by Gertrude Ashley, of Deerfield, Mass., of swale grass found in the home fields,

cured and prepared by the weaver herself. There is great scope for beauty in the making of this kind of basket and for the description I have taken from an article published in *House Beautiful* for March, 1904, by Miss Mary Evans Francis, who has made some of the most beautiful and perfect of white women's baskets by this method.

"The beginner will find it easier, in a first attempt at basket-making, to use raffia in sewing, as some skill is required to sew coils of grass with manila, since a dozen of the fine strands are needed to fill the sail needle, or stout needle, and grass and manila may become hopelessly tangled if the ambitious worker has had little practice. In making the first basket, one of not too difficult shape must be chosen, and the form kept clearly in mind as the work proceeds. Or, better still, draw in pencil an outline of the basket and keep the drawing in view.

"Each basket is formed of a continuous coil of grass, which is started in the center of the basket bottom, and is kept of uniform size by the frequent addition of a few spears of grass. The method of sewing is very simple, a plain oversewing stitch being used to bind the coi closely together. The sewing material is joined by a flat knot tied so that it will not appear on the surface of the work.

"To make a basket similar to Fig. 54, take a medium-sized bundle of grass and dampen it slightly so that it will be pliable. From this draw out a wisp the size of a small lead pencil. This will be the beginning of the coil of which the basket is built. Having threaded a needle with a strand of raffia, tie the raffia around the grass one-half inch from the coarser end, then holding the grass firmly in the left hand wind the raffia closely around the grass ten times, as shown in Fig. 55. This is to form the very center of the bottom, and must be

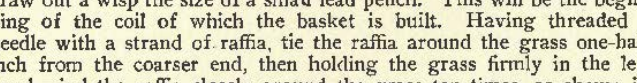


Fig. 55. Preparing for the Button.

carefully coiled upon itself, as in Fig. 56, bringing the short end underneath, and letting the free end of the coil pass toward the left. In putting the needle in for the first stitch the raffia passes over the top

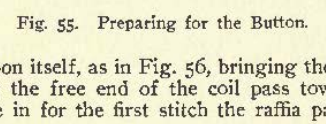


Fig. 56. Making the Button.

of the coil and the needle is inserted diagonally through the coil under the first winding thread.

"After the coil has been sewn around once or twice in this manner the stitches will be seen to interlock in curved lines radiating from the center, forming in their regularity an important decorative feature. Continue the sewing until a mat is formed three inches in diameter, Fig. 57, letting the coil gradually increase in size. This is the bottom of the basket and must be kept flat, or slightly raised in the center. When it is necessary to insert more grass, in order to keep the coil of uniform size (it will not have to be done before the third time around),

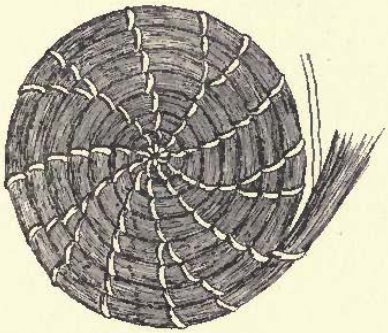


Fig. 57. The Bottom of the Basket.

open the free end of the coil close to the last stitch and place a few stalks of grass inside the coil, pushing them back firmly, and taking care that their ends do not show on the surface. Now turn the work so that the lower surface is uppermost, and the free end of the coil passes toward the right. Bring the needle back under this coil and continue the overhand sewing. In this way the outside of the basket is begun.

"If a slender grass is used, the coil must be stiffened by using on its inner side a coarse grass to give rigidity to the basket. Broom-grass, which remains through the winter in stiff, brown groups by waysides and in neglected fields, is one of the best for this purpose. In the first row of the outside the stitches are taken through the back of those in the last row of the bottom, but afterward the sewing proceeds exactly as before. Care must be taken to insert the needle well into the coil lest the stitches be broken, and each stitch must be tightly drawn and held in position with the finger, while the next stitch is taken, that the work may be firm. It is impossible, even from the most slender grasses, to make baskets of great firmness if the stitches be drawn tightly enough to bind the coil closely together; while with coarse grasses, in a coil one-half to one inch in diameter, a scrap-basket may be built so firmly that no amount of pressure or hard usage can damage the rigidity of its form.

"THE FLARE OF THE BASKET."

"The first few rows of the outside of the basket are brought out in a gentle flare from the bottom, and the succeeding rows are built up until the basket resembles Fig. 58. From this point gradually bend

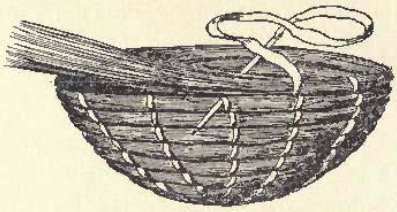


Fig. 58. Making the Bowl.

the coil inward as it is sewn. The modeling of the basket is done entirely with the fingers as the work proceeds. The free end of the coil should never be held down ahead of the sewing, nor twisted, as pupils are too liable to do, for this will invariably result in ungainly angles and imperfect forms where should be curves and symmetry.

"When the coil has been brought around a sufficient number of times, sew on the last row as a slightly raised edge, by holding the coil on top of the preceding row while placing each stitch. Sew it around once in this way and then cut off from the free end all but three inches with which to finish the basket. From the inside of this shortened coil cut out one-third of the grass, take one more stitch, cut out half the remaining grass, and sew the end of the coil firmly down inside the basket, finishing the edge smoothly so that there is no inequality of outline. When practice has been gained in control of material, raffia should be discarded in sewing, and manila used in its place, as the fiber of the latter more nearly suits the texture of grass.

"*Ornament.*—When an ornamentation in contrasting color is desired, it must be kept in mind that designs should be adapted to the material in hand, the method of construction, and the form of the basket, or tray, which they are to decorate. Where a design is to be put in, e. g., by using corn-husks, a husk is folded in several thicknesses, and the larger end pushed under the coil. After taking a stitch, to bind this end in, the husk is laid on the outside of the grass coil, and the sewing proceeds as far as the design is required, when the husk is passed over the top of the coil, bringing grass again to the surface. In the following round the husk is inserted as before, the ornamentation being built into the basket as the coil is sewn."

PINE NEEDLE BASKETS.

By Mrs. J. P. S. Neligh, Columbus, Ga., also an interview with Mrs. McAfee, of West Point, Ga.

It may practically be said that Mrs. McAfee, of West Point, Ga., is the originator of Pine Needle Baskets. So I requested Mrs. Neligh to interview her and tell exactly how she does the work that has made her so well known. The introductory remarks by Mrs. Neligh are followed by the stenographic report of her interview.

Something new are the pine needle baskets, so dainty, bewitchingly beautiful and so woodsy. They are most unique, as the needles form the beauty of the basket. They are just what they were meant to

Fig. 59. Pine Needle Baskets.

be; they only claim to be pine needle baskets of modest brown, and seem to say: "I am from the pine woods—simple and unpretentious. I modestly stand for what I am—a Pine Needle Basket. No decorative border haunts me—no pinky-blue or violet gray dyes can enhance the beauty of my self toned brown that Mother Nature knows so well how to bring about. I was browned by glints of sunlight, blown about by midnight winds, moistened by summer dews and polished by wandering swain who gathered violets along the wooded trails scattered deep with fallen straws."

The good resiny odored receptacles are sure to win a way into the hearts of all, for they bring to mind the good old days among the pines. And he who would make pine needle baskets should go to the deep dark forest in whose sombre depths lie these long straws, being colored ready for use, and gather them herself. They make far prettier baskets than do those cured a natural green. In our work we procure the extra long sixteen or eighteen inch straws and lay them on papers in a shady place, on the north side of the building, turning them over several times until they are well cured.

To make one of these pretty and useful baskets, take three straws, just as they are picked from the tree or ground. You will find a sort of sheath holding the three needles—slip this off and clip the ends so the tip of lighter color will not be used and proceed as in any coiled basket.

To those less experienced in basket making I might add: Take the three straws in your left hand, then with a linen carpet thread—same

color as the needles—begin to wind around the straws back an inch or so from the end; wind three times then pass the end of the thread over the wound stitches and wind toward the end, binding in this end as you wind. Now cross the ends of the straws, make your first sewed stitch, and bind the loop just made. Sew the coil to this center by placing the needle under each thread in center, having the needle point come out at the left side of the thread below each stitch.

As the center enlarges insert more straws, hiding the ends in the coil. By examining the needles you will find a right and wrong side—or a polished and rough side. Insert the needles so the polished side is outermost.

The beauty of your basket depends largely upon making it right side out, as well as the exactness of stitch and evenness of the size of the coil. The most experienced pine needle basket maker I know told me she considered it necessary for a beginner to make nine baskets before expecting to make one good one.

The following is the result of the stenographic interview with Mrs. McAfee:

Will you kindly tell how you first began to use the pine needles?

"The necessity, during the war, when we had to make everything. The wagoners brought up long-leaf pine needles and that suggested making hats, because we had to make our own hats, and I went to work and made a hat. That was the first thing I made with pine needles. Before that I had made them of coiled rush. The material, or pine needles, coming to hand suggested the work. Then I made all my friends fancy baskets, pin trays, etc., of pine needles.

"The first thing I made with pine needles was a hat for my father, using three needles or straws to the coil. I sewed it with the last spool of Coats' thread (No. 50) that we had. That was the last spool of bought thread on the plantation. After that we spun it there from the raw material."

How long did you continue making these pine needle hats?

"I made hats for my father, my brother and one for myself—just a hack hat, for I never would wear a sunbonnet. I was solicited to make them for other people, and was offered ten dollars for a hat, but did not have to do it. I was working for the love of it."

How long did you keep up this pine needle work?

"Not long. I really don't remember, but not longer than a year; perhaps one season."

Just fancy work for the season?

"Occasionally some neighbor or friend would want a little basket, and I did it along that way, a little at a time, all during the war, after I found out about it. Then I didn't do any more until about five years ago, when I took it up again."

You might say the art had passed from you, or was discontinued until five or six years ago?

"Yes, and then it was suggested as a pastime for my grandchildren."

It was revived by having some pine needles sent to you?

"Yes, the needles were sent to me for soft pillows and then the children brought me some long-leaf needles, and that suggested making baskets. I began by telling the children stories about how a lady

made hats of the pine needles during the war, and they asked if they couldn't make some. I told them we would try, and I got a needle and thread and we began making little souvenir baskets."

How did you get into the basket circle again; that is, making baskets yourself again as an art?

"That was through the Woman's Club. Mrs. Johnson became very much interested. She wanted me to make some to display at a fair of

Fig. 60. Pine Needle Basket with Cone for Handle of Cover.

the Woman's Club of Georgia, and I sat up night after night and made some and sent up. I had only about five or six days to make them."

She accidentally saw the little baskets and admired them, and gave you inspiration to make more?

"Yes, on short time. Soon I received another enthusiastic request for the Arts and Crafts Bazaar. I made up then about two dozen."

Were these sold?

"Nearly all of them were sold—all but one or two. I really made them as a pastime, because I enjoyed it. I had the material, used a good deal of Georgia wire grass and pine needles together. I would just think of a shape and work it out because I enjoyed it, with no view of selling them at all. I have scattered them around among my friends and family. Then I had quite a number on hand last Christmas

and sent them to the Christian Woman's Exchange in New Orleans, thinking I could make more of them. From that I have been filling orders all along. I have sold this summer, since July, about fifty baskets."

They vary in size and shape, ranging in price?

"Yes! All shapes and sizes. I have never sold even a small basket below 75 cents, usually $1.00. The highest I have obtained is $5.00, then along down, $3.00, $2.75, $2.50, etc., according to size and finish.

Will you describe the basket you sent to your son?

"That was made of dark pine needles and the decoration was husk of millet. The lid has a pine cone for handle or center finish." (See engraving.)

Describe those two little baskets in the picture.

"The smaller one the straws were just broken for curing in the sun.

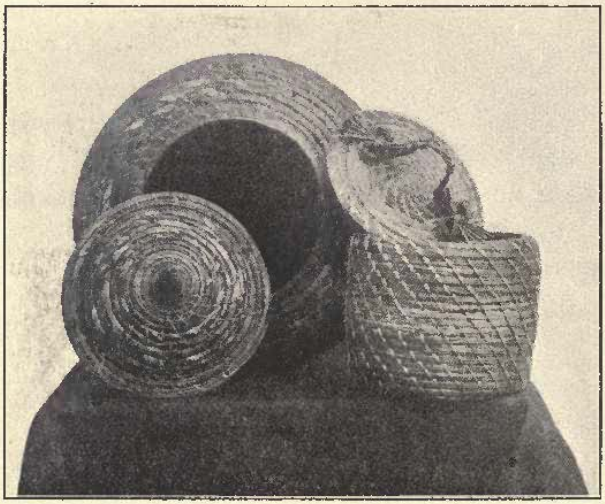


Fig. 61. Pine Needle Baskets by Mrs. McAfee.

It was an exceptionally odd freak of nature; I suppose they were in a certain stage of condition. Some cured light, some a little browner and others a dark brown. I suppose the dark brown were nearer matured. The beauty of the whole basket is in the shades of coloring. This freakish curing gave the effect of rockwood coloring."

Is it possible, by subjecting the basket to lights and shadows, putting paper over a part of it and leaving a part exposed, to bleach or fade the pine needles so as to get this decoration; is it possible to bleach them white?

"Yes, I have been told so, but have not tried it myself. I mean to try it the next fresh needles I get. An old negro told me that by pour-

ing boiling water over the needles every day and leaving them out in the sun and dew, then repeating the process day after day, that they would bleach. She said she saw someone do it during the war. You know we used to bleach palmetto. The curing of the pine needles makes the greatest difference in the general appearance of the basket."

What do you think is the best process?

"The best I have fallen upon, when you want them green, is to gather them when green and pull them from the limb, cut the shuck end off and spread them on newspapers in the shade—not much light. I usually cure mine under the bed, under the lounge or in a closet—wherever I can find room. When I want the brown I leave the

Fig. 62. Pine Needle Baskets.

needles on the limbs and cut up the limbs and place them in the sun. They won't get brown after they are pulled off from the limb."

Then, when they are cured on the branch that way it gives them a brown color?

"Yes, but it is a slow process. They don't cure quickly. I leave the limbs out all the time, day and night, rain and shine, turning them over until they seem to have taken on the color they are going to take."

Then when you want something real brown you have to take to the woods?

"Yes, I take to the woods, and get the needles that have fallen from the trees and lain on the ground a long time. Those not satisfied to leave well enough alone, may find that a cloth dampened with ammonia will deepen the tones, but I am a firm believer in the natural color."

Now, please tell us the necessary things to begin a basket—what thread to use, size of needle, etc.

"I think mercerized cotton is best for experienced hands, or 'Aunt Lydia's Linen Finish.' I have used the common thread from the mill. I use the color that seems to harmonize best with the coloring in the pine needles. I wax my thread. I think a little wax on the thread gives a polish to the needles. Rub the basket and the little wax that is on the thread gives it a polish.

"Another way to polish a completed basket is to take linseed oil and sponge the needles lightly, then rub vigorously with a cloth, taking care not to disturb the symmetry of the radiating stitches nor break the delicate fronds.

"Before beginning a basket I plunge the needles in scalding water and then wipe off the resinous matter that adheres to them. Dampen again if inclined to break when sewing them.

"If I am going to work at once I soak some of the needles in the hot water long enough to soften them, as well as remove the resin. In sewing I use an ordinary needle—as small as possible—because a large one is apt to cut the straws. I moisten the needles until I have worked about one inch of the basket, and after that use them dry, thus making the basket much firmer."

Tell how these needles must be inserted?

"I take the shuck end of the pine needle and insert that into the coil, putting it from the center of the coil, always keeping the polished side of the needle to the front. There is a great difference in the appearance of the basket if you do not keep the polished side of the needle to the outside or decorative part of the basket."

Now about the stitch; speak of the radiation.

"From the center I make the stitches just as close as I can to show any of the needle between the stitches, then let them radiate. When they get too wide apart you have to put in an extra stitch. That spoils the looks, but it is necessary to make a firm basket. The extra stitches must be put in on the bottom or hidden surfaces; never in the wall of the basket."

How about taking stitches when you want to insert a new thread?

"When my thread gives out in the needle I draw it tight, put it under the coil and then pass it through the next lower stitch to the right side, then back across that thread around the stitch, letting the drawn thread lie parallel with the stitch inside. To start a new thread I pass the needle through the last stitch made and pull it under the coil, so as to conceal it under the needle, starting from the inside, the loose end of the thread being hidden under the coil.

"The requisitions to a good basket are symmetrical beginning, the space between the stitches equal, and the coil of equal thickness. The symmetry of the stitches is more easily gotten by passing the needle through at the left of the preceding stitch."

Of course, a basket maker must always have an ideal form in mind before beginning the basket?

"Yes, no mere basket abstractions are permissible to good basketry. I always make a drawing and follow that."

How do you finish the basket?

"I let the coil run out rather than to cut it off.

"As a final word, draw your stitches tight, letting the thread pass between the finger and thumb, and compel yourself to see that each coil is well made and in perfect harmony with all that has gone before."

BAM TUSH WEAVE.

As I have shown in *Indian Basketry*, some of the finest weaving in the world is made by the Pomas—the people of the Red Earth—who live in Northern California. Their work is delicate and fine, exquisite and beautiful, appealing to one's sense of form, color, design, adaptation to use, and general harmony. As a rule the workmanship is perfect, each stitch as absolute as if done by machinery. It is when the white weaver compares the best of her work with the work of a Poma weaver that she must feel the immeasurable superiority in this field of the Indian. The baskets are poems in wickerwork, and though one may know nothing of the meanings attached to the designs he cannot be unmoved by their strength, vigor and beauty. There is scarcely a human need of the aborigine in the way of a utensil that was not met by the creation of a basket among the Pomas. As a cradle, a wash-bowl, a hat, a granary, a carryall, a burden carrier, a water holder, a cooking vessel, a stew-pan, a platter, a gambling plaque, a mush-bowl, a treasure-basket, a seed gatherer, a fan, a hopper for a mortar. These, and scores of other uses, the basket was put to. And, as the Indians in the early day made these baskets for their own use, and the poetic, esthetic, and artistic desires within themselves demanded play, they made things of beauty of their woven ware. Months of care and labor, besides months of prior thought and study, were expended with reckless lavishness upon these baskets. Every particle of suitable or likely material was carefully examined to see if it would lend itself to their weaving, and then the beautiful in feathers and shells were taken to add extraneous beauty and decoration to pleasure their friends and themselves. As I have written elsewhere, and often, though in diverse words, these baskets were the chief art manifestation of their weavers. They were at once "their poems, their paintings, their sculpture, their cathedrals, their music."

The word "bam" as commonly used is equivalent to our word "stake" or "spoke." It gets its origin from "bam-tu," the grapevine, which was the original material used by the Poma in this kind of weave.

Rattan or reed supplies us with "bams" ready prepared.

Material Required.—Two ounces No. 1 reed, 1 ounce natural raffia, ⅓ ounce madder red raffia, ⅓ ounce old blue raffia.

Size of Basket.—Four inches high, 4 inches across the bottom, 8 inches across the top.

Making the Base.—There are three ways of making the base, and I shall explain all these three methods and leave the weaver to take her choice, assuring her that all the methods are good, all are practical, and all are used by first-class weavers.

No. 1 Method.—Take 12 bams or spokes of No. 1 rattan, 20 inches long, and a long weaver of natural raffia. In six of the twelve spokes

make a split in the center about an inch long, as shown in Fig. 63. Then thread the six unsplit bams through the split ones (See Fig. 64).

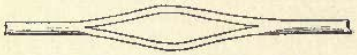


Fig. 63. Split Bam for Round Base.

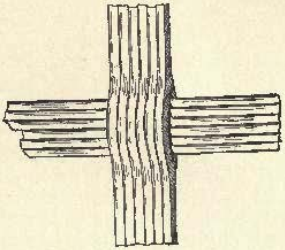


Fig. 64. Bams Threaded for Round Base

Keep flat and cross exactly in the center. Take raffia thread, double it, leaving one end several inches longer than the other. Slip the loop over six of the split spokes, bringing under part of raffia weaver over, and top part under the next six spokes, as shown in Fig. 65. Repeat

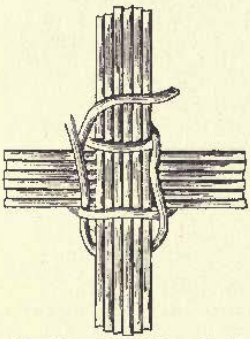


Fig. 65. Weaving of Bams for Base.

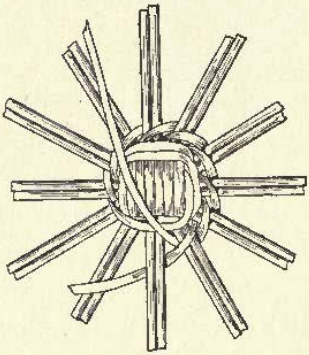


Fig. 66. Round Base with Spokes in Pairs.

this until three rounds of weaving are made, using the raffia as a double weaver. Be sure that the under weaver is always brought to the top before the top one is taken underneath, to prevent the weavers getting twisted. Now separate spokes into sets of two (See Fig. 66), pulling the spokes well apart to allow room for the weavers to be well pushed down. Then pair around the double spokes for three rounds, after which separate each spoke and pair, as shown in Fig. 67. Weave as closely as possible. The bottom is now well started. As the size enlarges new spokes are added by cutting them the desired length, sharpening the point and thrusting into the center by the side of any other spoke, and then spreading open enough to allow the weaver to be woven between it and its neighboring spoke.

No. 2 Method.—Cut eight bams of No. 1 reed, 20 inches long. Take

four of these, laying them alongside each other on a table or other flat and solid surface. Now with a thread of natural raffia weave under and over the center of the bams, as shown in Fig. 69, making a square of weaving. Now with the other four bams make another similar square. Now place these *two squares* one above the other at right angles, with the two long ends of raffia meeting, as shown in Fig. 70, so that they will weave *toward the right.* Now take the two weavers of raffia, and weave around all the eight bams as tightly as possible for three rounds. Now cut additional bams or spokes, sharpen and insert two in each of the corners, spreading them enough to allow the weavers to pass tightly between them, as shown in Fig. 68. Now spread out all the bams, as in Fig. 67, and proceed.

Do not forget in inserting new bams to sharpen them, so that they push down more easily by the side of one of the bams already in use. An awl or stiletto can be used to make place for it.

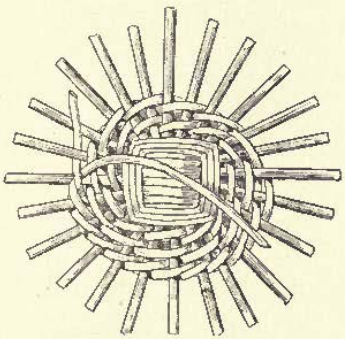


Fig. 67. Round Base with Bams Separated.

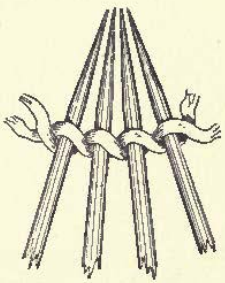


Fig. 68. Method of Inserting Bams at Corners.

No. 3 Method.—This was fully described in *How to Make Indian and Other Baskets* and is reproduced here as many prefer this to any other method (see Fig. 71).

Take 12 spokes No. 1 reed the length required, 4 short weavers raffia, and add spokes and weavers as required.

Cross five spokes at right angles to five other spokes and placing a raffia strand across the laid spokes, diagonally bring the strand underneath to the beginning of the diagonal crossing where it is securely twisted. Now cross over to another angle and let one of the halves of raffia pass underneath and the other across the top spokes to the opposite corner diagonally—twisting again. This gives a cross or raffia over the grouped spokes.

Now begin to twine the two strands of raffia from the outside in toward the center, over one, under one, carefully impacting each stitch as the twist is made.

Weave around three or four times with raffia and then bending one of the extra spokes of rattan in half lay it snugly at the bend in the angle of the crossed spokes. It thus makes two new spokes. Twine

the raffia over each of the two new spokes and snap a rubber band over the first group of six. Care must be exercised so that the crossed spokes always lie flat until the base is well started. When the twining crosses to the next angle another spoke is bent in half and again fastened to its place. This group is now securely held with another rubber band, and thus continue with the remaining spokes, twining around as many times as required.

As the work increases extra spokes must be inserted, and these are cut the length of the angle where they are to be placed. When the base is the desired diameter stop adding spokes and gather three of the ground spokes into one and then shape the basket as desired.

Any shaped basket may be formed from this base, four sided, round or flat.

Size of the Base.—This, of course, depends entirely upon the size your basket is to be. From Fig. 72 the shape of the Bam-tush bowl is

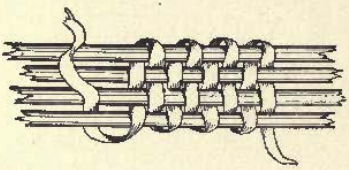


Fig. 69. Preparing Bams for Base.

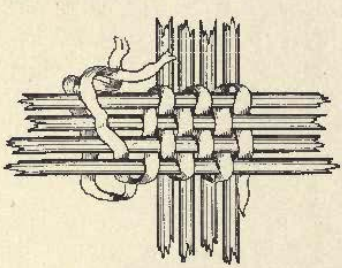


Fig. 70. Bams at Right Angles for Base.

seen. The bottom of this basket, which requires 20-inch bams, is a little over 4½ inches before the upward sloping begins. It is largely a matter of individualistic taste, and it will generally be found that a white weaver prefers a flatter bottom—that is, larger than an Indian.

Splicing Weavers.—If you have an opportunity of looking at a genuine Bam-tush Poma basket you will see that every stitch is exactly the same size as every other. This implies that the weavers are all of the same width. This point must be particularly noted. When a new thread of weaver is needed, place one end of it alongside of the old weaver, leaving an end about an inch long *inside* the basket. Now weave *with both threads lying together* until the new thread is well established. Then push the old thread through between two stitches to the under side of the basket. Trim off waste ends when convenient. The Indian weaver leaves this always as her last task.

Introducing the Color.—This is done exactly as in the foregoing directions for splicing. But if a band of solid color is required two new weavers must be introduced.

Shaping the Basket.—There is no fixed method of doing this. Each weaver will experiment until she finds the way that is easiest and best to her. The accompanying photograph of a Haida woman shows the

Indian method. As soon as the base of the basket is as large as desired and she wishes to begin to round it up, she takes a pole and thrusts it firmly into the ground. Then she turns her basket base upside down (with the bams hanging down), and fastens it to a piece of wood shaped to about the size of the base. Then she places this on top of the pole, so that it will revolve as she weaves.

One weaver suggests that a large fruit jar filled with sand, on

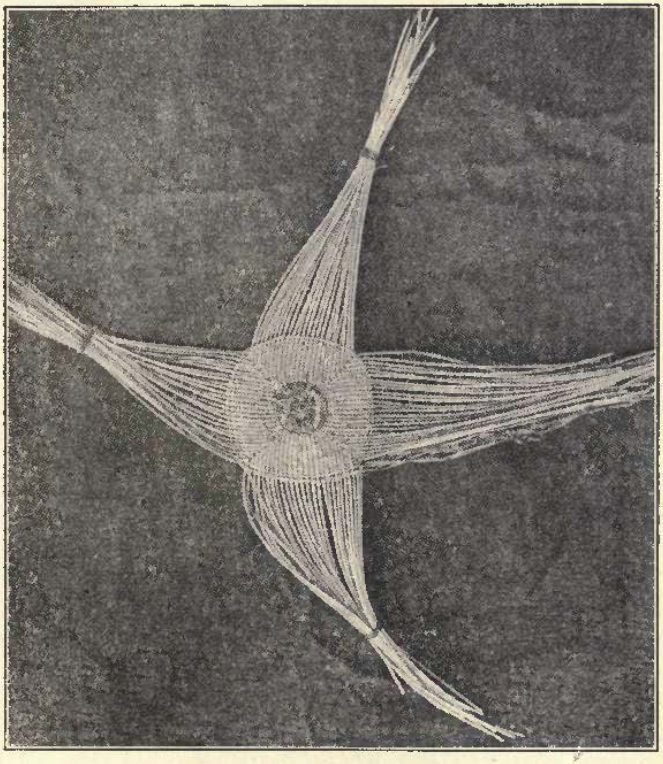


Fig. 71. Base of Twined Weaving with Inserted Corners.

which a small wooden bowl is placed, will answer the same purpose. The Indian method is the better as it leaves both hands free for the twining of the weavers.

As the enlarging process continues it is necessary to insert more bams. See that the points are sharp and thrust well in. Study carefully how the Indian has made her basket so rounded or swelled, and

then how she reduces the swell. This is done by taking out—cutting out—some of the bams. Do this at regular intervals, so that the reduction of the swell will be uniform.

Finishing the Top.—This kind of finish is an *un*finish. Weave the basket as high as you wish it to go. Then fasten off the weavers by threading them down tightly through two or three stitches, by the side of one of the bams. Now cut off the ends of the weavers. Soak the whole top of the basket thoroughly and leave overnight to dry.

Fig. 73. Haida Woman of Masset Weaving a Basket.

Then, with a sharp knife, trim off the bams evenly about ⅓ of an inch above the top row of weaving. This is the exact Poma method.

Using Flat Bams.—Sometimes the Indian uses flat bams. The white weaver may do the same if she desires by running her round reeds through a clothes wringer and thus flattening them out. Be careful, however, not to split them.

Bands of Ti Weave on Bam Tush Basket.—This is a beautiful Poma device for strengthening the basket, and also making a beautiful variation in weave without a change of color. Fig. 74 shows exactly how

it is done. To introduce one or more rows of ti (pronounced tee) finish off the row of twisted weaving and fasten the ends first as described for finishing off the basket. Now take the ti reed—one that will go completely around the basket—and place it in the desired position. Take a long raffia weaver of the color required, loop it around any one of the bams and then twining over and under each bam and the *ti* band make the complete circuit of the basket. Fasten the ends of the

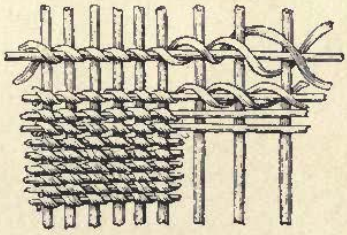


Fig. 74. The Ti Weave of the Pomas.
(By courtesy U. S. National Museum.)

weavers by pulling through several of the stitches first made. Cut off the ti band exactly to fit the other end, so that it makes a continuous circle.

BAM TUSH BASKET WITH TI BAND.

MADE BY MRS. WHITNEY WILLIAMS,

Rochester, New York.

Size and colors as in the previous basket.

Commence the basket with 12 bams or stakes of No. 1 reed, 20 inches long, adding new stakes as often as necessary to keep the weave close. These are added by bending a piece of reed until the ends meet, after soaking so it will not break, and inserting the loop between two stakes, thus forming two new stakes.

When the bottom, which is woven with a slight depression in the center, is 4 inches in diameter, introduce the color, using one blue and one red weaver. Then weave as follows: Eight rows red and blue alternate, six rows blue, seven rows red and blue, four rows red ti, as described above, four rows red and blue, fifteen rows natural raffia with dashes of black, three rows red and blue, three rows red *ti* weave, three rows red and blue, another band of natural raffia of ten rows, three rows red and blue, three rows red *ti* weave.

After soaking thoroughly the edge is finished by passing one stake under the one to the right and over the next, making the edge as close as possible.

(It will be noticed that this is not the regular Poma Bamtush finish of the edge, but the result is both pretty and serviceable.)

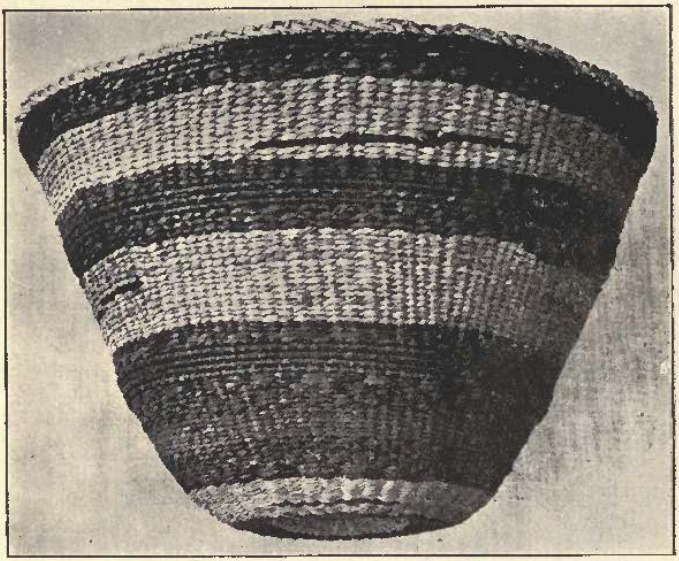


Fig. 72. Bam Tush Basket, with Ti Band, by Mrs. Whitney Williams, Rochester, N. Y.

INSERTING SHELLS, BEADS AND FEATHERS.

All who have looked over the pages of my larger book on *Indian Basketry* or of this book, will see that among some of the tribes there is a great tendency to extraneous ornamentation. These ornaments are generally shells, beads, feathers, leather strips with silver or other bright metal pendants, etc. The glisten and sheen of the brightest feathers of the most gaily decorated birds of gorgeous California, reds, greens, blues, browns, blacks; the pearly iridescence of the pearl and abalone shells; the exquisite creamy whites, jet blacks and soft shades of the red-bird, all combine to make baskets that only superlative words can describe. The Moonbaskets, the Sunbaskets, the Ceremonial baskets of the Pomas, Gualalas, Yokuts and others are dainty, exquisite, beautiful, artistic beyond the belief of those who have not seen them.

No white woman can hope to rival these aboriginal masterpieces. She can, however, gain much pleasure and delight in endeavoring to copy them. She will thus learn to honor and respect her dusky sister far more than she has ever done before, and at the same time produce results pleasing to herself in her work.

Abalone Shell and Bead Pendants.—Fig. 75 is of a Yolo Ceremonial Basket, and hereupon are shown the shell and bead pendants. J. L. Hettrich & Co., Shell Dealers, of San Francisco, Cal., will cut and polish shells of any shape or size desired. Beads of medium size and

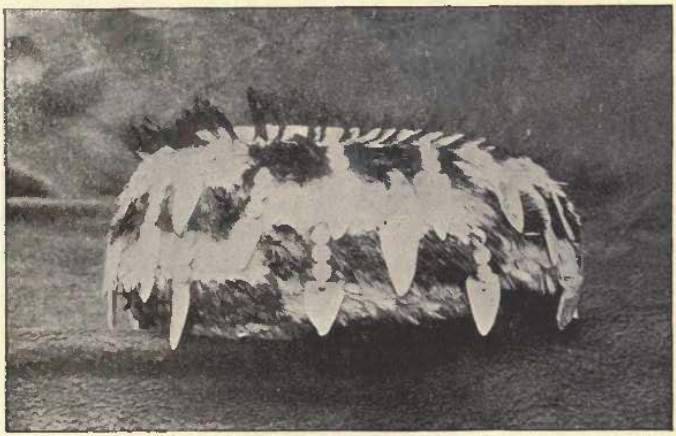


Fig. 75. Yolo Indian Ceremonial Basket.

soft colors only should be used. Six or eight beads may be used according to fancy. Cut as many six or eight-inch pieces of strong linen carpet thread as you wish to have pendants. Then string the beads and the shell, passing the thread back again through the beads. When ready to weave into the basket wrap the double thread three or four times around the coil being made, without knotting. Leave the pendant to swing easily. Now securely wrap the raffia around the threads on the coil as tightly as possible, thus securing them. If the thread is longer than to allow of three times around the coil all the better, as the more it is wrapped over by the raffia the less danger there is of pulling it out.

Horn Shell and Bead Pendants.—In buying the horn shaped shells from the shell dealers be sure to see that a hole is bored through them. Cut linen thread as before. Double and make a knot large enough to secure the shell. Pull the knot in tightly so as to be out of sight. Then thread on the beads and weave into the basket as described above.

Feather Weaving.—This is not done at haphazard, as so many people suppose. The simple circle of quail plumes is measured with

accuracy, and in some baskets the whole design is worked out with feathers in a most ingenious and perfect fashion. Feathers of the mallard duck and other brilliant plumaged birds may often be secured from one's hunter friends, and these are the ones to use. Never dye a feather if you wish to follow the real Indian style. In weaving lay the feather stem on the reed of the coil pointing to the left, then wrap so tightly with the raffia that the feather cannot possibly be pulled out. Insert the feathers as often as desired in order to produce the designs. The feathers in a Poma basket often overlap each other.

Beads are woven with the same regularity as feathers. The Indian makes a strong hemp or bark thread, very tough and tightly spun. The white woman buys a good strong linen thread which she uses as a substitute. Then, threading a long string of her beads, she weaves one end of the thread around the coil several times, carefully covering and tightening it with the wrapping. The thread thus tightly fastened, slip up a bead close to the raffia coiling thread, leaving enough thread for the bead to hang loosely enough not to wear away the thread. If two or more beads are required close together leave them, then carry the bead thread along with the inner coil until the next place where one or more beads are required.

THE KLIKITAT WEAVE.

Among the Northern Pacific Coast basket weavers few surpass the

Fig. 76. Klikitat, Aleut and Haida Baskets in the Frohman Collection

Klikitats when strength, uniqueness and originality are concerned. The first basket on the left in Fig. 76 and of all the baskets of Fig. 78

are of this weave. The inner coil consists of shredded cedar and spruce root, and the wrapping splints are made from the outer portion of the root, which is exceedingly tough. The ornamentation is made of cherry bark, cedar bark, grass stems, etc., dyed sometimes with the Oregon grape.

It is this ornamentation that differentiates the Klikitat weave from any other. It is a kind of "knife-plait overlay," an imbrication, where one stitch overlaps another as tiles do when they are laid. But tiles are placed on a roof each one separately, while the overlay of Klikitat basketry is of one continuous piece, "plaited" to produce the overlay effect.

The Indians make one stitch serve for wrapping the coil and catching on this overlay, and to permit a white weaver to test her skill I herewith describe and illustrate it. Then I shall describe the white weaver's easier but less effective way.

The coiling stitch used by the aborigine is practically the Hopi stitch, before described. As the wrapping stitch comes over the coil a strip of the colored bark or grass is laid down on the coil and caught in, as shown in Fig. 77. Before the next coiling stitch is taken this

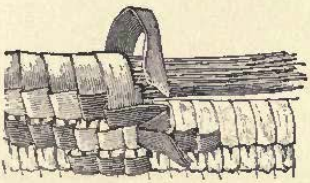


Fig. 77. Imbricated Basketry Stitch.
(By courtesy U. S. National Museum.)

strip is bent forward to cover the last stitch, doubled on itself, and the next coiling stitch taken over it. This process continues as long as the overlay is desired.

The white weaver should prepare her own overlay material. Wheat straws can be split and used natural color or dyed, split palm leaves, corn husks, native grasses, raffia or native barks. They can be dyed according to one's own taste. See the pages devoted to dyeing. They should be prepared in long ribbon-like strips, perfectly even.

The Klikitat baskets vary in size from a few inches to three feet and more in height, so any size that the weaver may decide on will be appropriate. A good size and design to start on is the one shown in Fig. 78, on the upper right hand corner. This is about twelve inches high; bottom diameter, five inches, and twelve inches across the top.

To make this basket turn to General Directions and Figure 8 stitch and make the basket bottom; turn for the sides. Now it should be remembered that most Klikitat baskets have the whole side, *body* as well as *design*, covered with the overlay. This means the introduction of color for the design when necessary, and then a return to natural color for the body.

First figure out your design and decide how many inverted arrow

points your basket will contain. Then hold the basket in the left hand. Cut off one end of the overlay ribbon squarely and place *color downwards* over the last stitches made on the last coil. Now weave three Figure 8 stitches, holding the ribbon firmly in place until the stitches you are making secures it. Now fold the ribbon back over to the left, so as to cover the three stitches and the end of the ribbon. Now take a Figure 8 stitch to hold the folded ribbon in place. Now make *four* Figure 8 stitches, the fourth being *exactly* over the first stitch which held the overlay ribbon while the folding was done. This is imperative

Fig. 78. Klikitat Baskets in Frohman Collection.

if a beautiful basket is to be the result. Carelessness here will spoil its appearance.

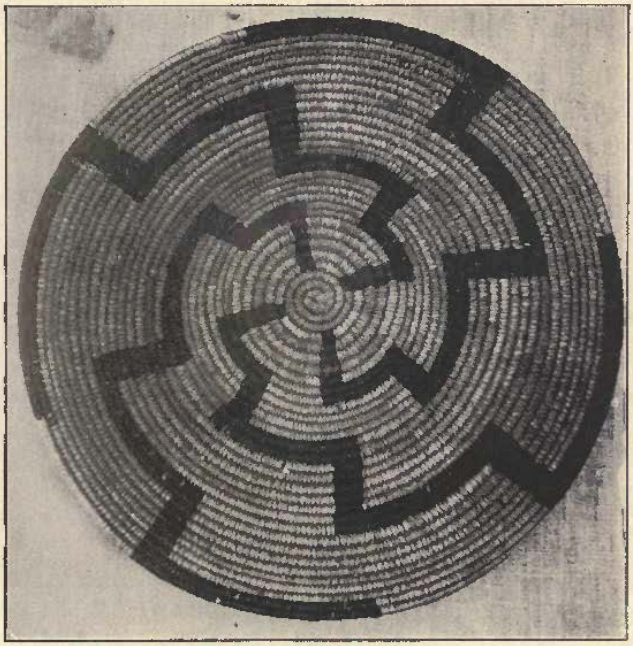
This process is now continued—viz., weave three Figure 8 stitches, fold ribbon over to left, take one stitch, fold ribbon back to right and take the one stitch around, being sure that it is over the stitch which held the ribbon, only taking it ahead and toward your right hand. If the weaver but bears in mind that it is a kind of basket plaiting she will soon have no trouble.

To Change Color cut off the ribbon and begin anew in exactly the manner already described.

To Finish Off the Overlay.—Cut off the end of ribbon and weave

Figure 8 stitches over it, carefully covering it so as to hide and secure firmly.

To Make a Looped-Top Finish.—If you desire a looped-top, as the Klikitats often do, decide on the number of loops, and, when making the last coil around, carefully soak the reed to be bent, and then bend it to the desired shape, wrapping it singly until the bent part is wrapped and you are ready to close the loop. The first stitches taken over *both reeds* should be very strong, as it is an easy thing to break the



Basket made by Mrs. W. Williams, Rochester, N. Y.

stitches by lifting up the basket by one of the loops, as some careless friend or visitor may do. If an added band is needed or desired above the last and looped coil, it can be plaited of black or brown (or any color desired) raffia, and then carefully sewn with a fine raffia thread, the stitches hidden as much as possible, on to the top coil.

INDIAN SPLINT BASKET WEAVING.

DESCRIPTIVE NOTES.

In every clime the basket weaver has adapted for her purpose whatever nature has provided. In Eastern Canada and along the Atlantic coast region the ash and maple trees have been the most available. These with the sweet smelling grass of the marshes have been woven into many useful and attractive baskets.

Indian splint is made in several widths. Stakes or standards, Indian name, are the stiff splints, ½ inch or more in width. Weavers vary from ⅛ inch or less to two or more in width. The ordinary widths are, fine, ⅛ inch; medium, ¼ inch, and broad, ½ inch. The splint is put up in coils varying in length. The stiff splint, ½ inch wide, should be used for stakes and the limber for weavers.

Sweet grass is used to give odor and variety in the weave. It is used in various sizes of *braids* as weavers.

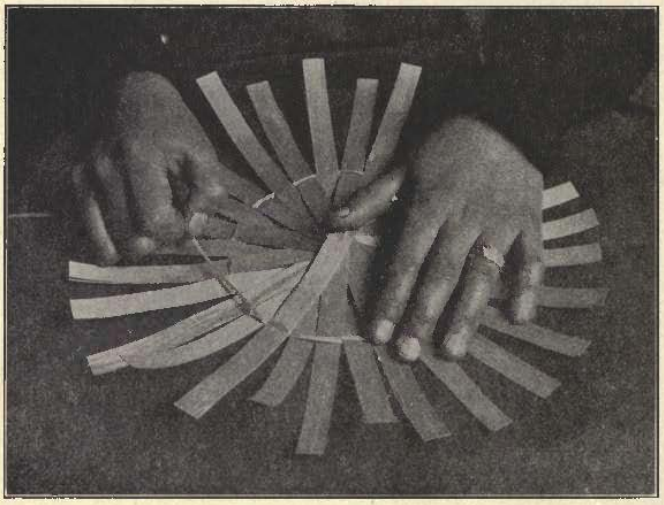
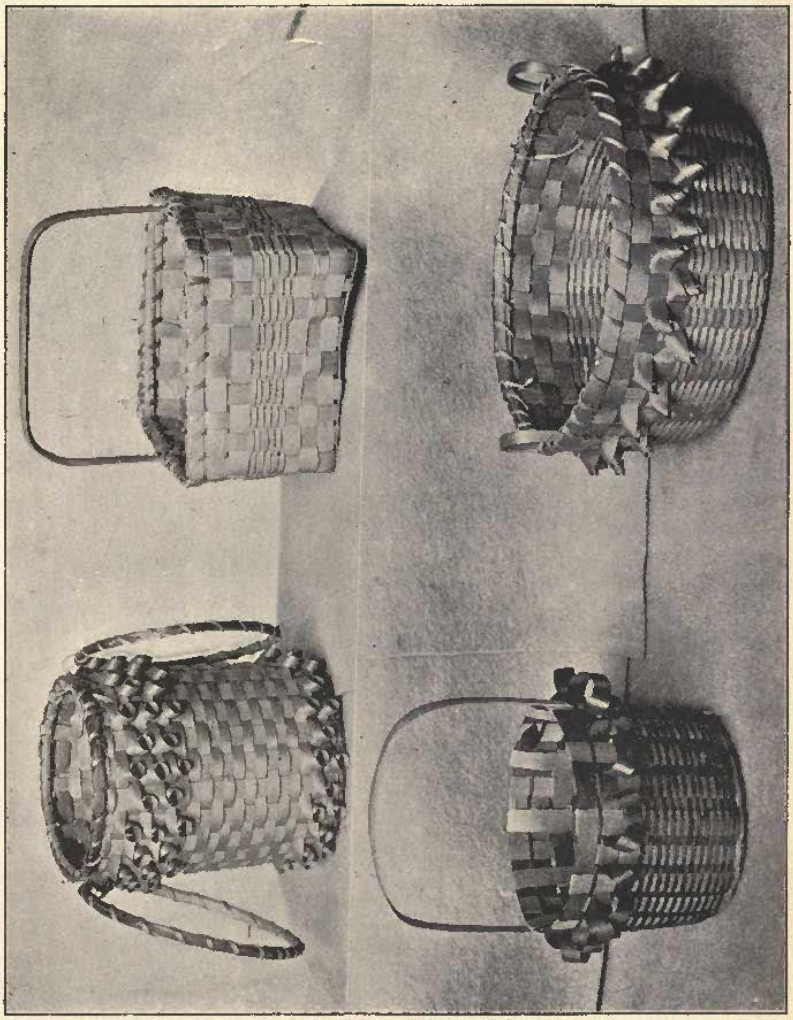


Fig. 85. Carrying Weaver Over Two Spokes.

MODEL I.—SMALL CARRYING BASKET.

Materials.—10 14-inch stakes; 3 broad weavers; 7 or 8 fine weavers; 1 20-inch stiff stake (handle).

General directions for all splint basket weaving.—Cut the stakes and straighten them by stripping them through the fingers against the curve of the splint. There is a rough and smooth side to all splints. The



smooth face has a better finish in color and does not show the grain of the wood as plainly as the rough face does. In laying the stakes for the bottom the rough face is kept uppermost so that it will come on the inside of the basket. Fig. 84 shows how the stakes should be placed in laying the bottom of any simple round basket.

Bottom.—Place stake 1 vertically on the table; place stake 2 at right angles through the center; place stake 3 at right of stake 2; place stake 4 at right of stake 1; place stake 5 at right of stake 2^1; place stake 6 at right of stake 3^1; place stake 7 at right of stake 1^1; place stake 8 at

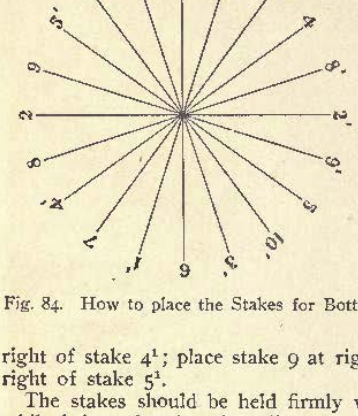


Fig. 84. How to place the Stakes for Bottom.

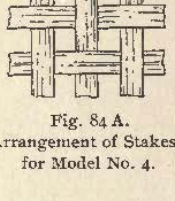


Fig. 84 A.
Arrangement of Stakes.
for Model No. 4.

right of stake 4^1; place stake 9 at right of stake 2; place stake 10 at right of stake 5^1.

The stakes should be held firmly with the left hand at the center while being placed and until one row of weaving on the bottom is completed. Insert a fine weaver under stake 1, leaving a short end which is held in place by the left hand. Take the free end of the weaver in the right hand and proceed over and under the stakes, taking care not to let the weaver twist, until again arriving at stake 6^1. Carry the weaver over stakes 6^1 and 1 and proceed as before (see Fig. 85). On arrival at stake 1 carry the weaver over stakes 1 and 7^1. Continue in this way until six rows have been woven, passing the weaver over two stakes once on each row.

When the six rows are completed cut the weaver to three or four inches in length and push the end underneath the several rows of weaving and towards the center. This holds the rows in place and the end may now be trimmed off shorter still.

Sides.—Bend the stakes up (as shown in Fig. 86) and close to the rows of weaving. Care must be taken in doing this not to let the stakes break. Insert two fine weavers, one back of any stake and the other in front of the same one. Weave over and under the stakes carrying both weavers along together. See that the weavers do not cross or twist. Continue for twelve rows of this weaving.

Splicing.—Should a weaver give out it will be necessary to renew or splice it. Do this in the following manner: Leave the end of the old weaver on the inside of the basket. Place the new weaver over the old on the last stake crossed by the old weaver and push the end under the preceding stake. Continue weaving as before.

When the rows of fine weaving are finished (and care must be taken to notice that the ending is made on the same stake as the one on which the weavers were started), insert a broad weaver and weave over and under the stakes once around. Carry this weaver over the first two stakes on which it was started. This is to hold it in place. Cut off the weaver close to the last stake crossed. Start back three or four

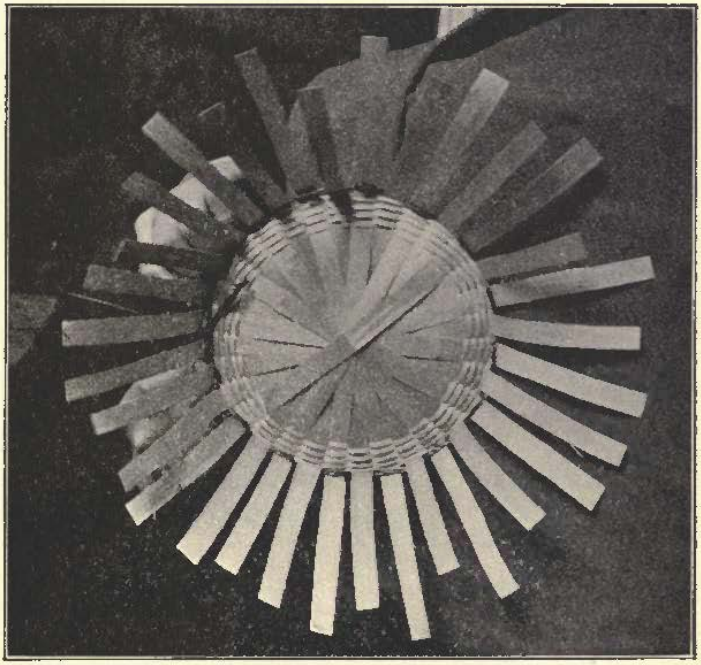


Fig. 86. Spokes Turned up for Sides.

stakes and make another band of this weaving. Follow this with a single row of fine weaver and overlap the ends as in the two preceding rows. Make another row with the broad weaver. This should complete the weaving. As the widths of stakes and weavers may vary, it may be necessary to increase or diminish the number of rows of fine weaving in order to keep the basket in good proportion.

Top.—The next step is to finish off the top of the basket. Select the outside stakes. Those under which the upper broad weaver has passed form the outside stakes. Cut these about two inches long and point. (See Fig. 87.) Bend these stakes over the top to the inside and insert

Fig. 87. Weaver Cut to a Point.

Fig. 92. Wooden Staple for Handle.

the point under the fine weaving on the same stake. Cut off the alternate stakes close to the top.

Handle.—Point both ends of the handle and insert them on the outside of opposite turned over stakes, and push them down under the outside rows of weaving to the bottom of the basket. The ends should now be pulled down until the handle is of the required height to suit the size of the basket. Turn the points back catching in two rows of weaving and insert them under the next rows above. Some of the handle may have to be cut off and the ends repointed before doing this.

The handle may be inserted in another way. Instead of cutting off the ends of the handle at the bottom, push them over the bend and under the weaving on the bottom until the ends are hidden at the center. This is more difficult than the first way, but looks neater, if done nicely. The trouble will lie in pushing the handle over the bend. To aid in doing this, take a scrap of stiff broad weaver three or four inches long, point it, and insert under the last two rows on the stake and the rows on the same stake on the bottom. The handle can now be pushed down back of this wedge. When the handle is passed over the bend take out the wedge. If the ends of the handle should protude at the center of the bottom, they must be cut off close to the center and the handle pulled up a little from the top. This will conceal the ends. Care should be taken, when the handle is inserted in this way, not to select the outside stake on the bottom, as the ends could not be caught underneath at the center.

Knobs.—It will add greatly to the looks of the basket if a row of fancy weaving or knobs be made over the two lower broad weavers. Cut two feet of very pliable broad weaver. Point the ends. Insert one end, with the rough or wrong side uppermost, under an outside stake on the lowest broad band. Without twisting bring around the free end and insert it under the next outside stake on the next upper row. Pull it through and leave a twist or knob as large as taste requires in front of the stake. Now insert the end of the weaver under the next stake on the lower row. Form a knob as before and proceed around the basket until the row of fancy weaving is completed. Keep the knobs regular in size. Trim off any long or loose ends on the inside of the basket.

This little basket may be varied in many ways, by changing the position of the broad bands and also by changing the number of rows of both kinds of weavers. Contrasting colors of weavers or of stakes and weavers are effective.

General directions for weaving.—All Indian splint weaving, both in round and square baskets, is similar in method to that described in this simple basket. A single weaver is always used in weaving the bottom of a round basket, and the weaver must pass over two stakes *once* on each row. Two fine weavers are used on the sides with the simple over and under weaving. One weaver could be used as on the bottom, but the work would be slow and not quite so firm as the two. Broad and medium weavers are always cut off on each round both on round and square baskets.

Knobs may be made in other ways than that described. Insert a broad weaver under an outside stake with right side of weaver outward. Curve the free end around and insert the end under the next stake on the *same* row. This will form a cone-shaped knob, which is a little more difficult to make than the first described, as the splint is apt to split unless a very pliable one is selected and care exercised in forming the points. The knob should be worked into shape by the thumb and finger of the left hand as the right draws the free end through.

Another knob is formed by inserting a broad or medium weaver under a stake. Place a lead pencil under the weaver and pass the free end under the next outside stake. Draw the weaver tight over the pencil. Place a second pencil in front of the weaver. Insert it under the next stake and draw tight over the second pencil. Remove the first pencil and repeat around basket.

MODEL 2.—SMALL WORK BASKET.

Materials.—20 18-inch stakes; 12 fine weavers; 6 broad weavers; 3 broad pliable weavers; 1 "stick," 30 inches, for top; ½ dozen strands of sweet grass; 2 wooden handles.

Bottom.—Take ten stakes and weave a bottom similar to that in Model 1. The other ten stakes should now be placed. Starting at any stake place the new one beside it and through the center. Continue around the bottom, placing a new stake at the right of each stake. They must be held in position at the center by the left hand and until the first row of weaving is accomplished. Take a fine weaver and insert it under one of the first ten stakes. Weave under and over the twenty stakes as in the first rows of weaving. Form six or seven rows of weaving and finish off the bottom.

Sides.—Bend up the stakes, and weave as in Model 1. Make fifteen rows of fine weaving and five rows of broad. Finish off the basket as in Model 1.

Top.—Take the stick called for in the materials. These sticks are for strengthening and shaping the basket. They are bound on the inside of baskets at the top. They come pointed at both ends and of uniform lengths. The stick may have to be shortened a little, but must be kept pointed. To find the required length for any basket take three times the diameter and allow for an overlap at the ends of four to five inches. Usually the sticks have a flat and a rounded side. Place the flat side next the basket. It will be necessary to tie this stick in temporarily, as it will tend to spring out when bent to fit the basket. Insert one end of the stick under a stake on the upper band on the inside

of the basket. Pass an eight-inch piece of weaver through the basket under the top and in front of the next stake. Tie the stick in place with this piece of weaver. Proceed around the basket and tie in the stick at intervals of three or four inches. The wedge-shaped ends of the stick should overlap. When the stick is securely held in place the basket is ready for binding. No special care need be taken with these tyings except to make them hold, as they are to be removed later on.

Handles.—If wooden staples (see Fig. 92) are used for handles, push the pointed ends down back of the stick and two of the broad bands. The notches should be caught under the stick.

Binding.—Take the sweet grass which has been previously soaked in lukewarm water for ten or twelve minutes. With the left hand hold the grass, by the root ends, against the top of the basket, so as to cover the upper band and edge. It is better to start binding in front of the lapped ends of the stick, so that the finishing will not come in the same place and cause a bulge. Pass a fine, tough and even weaver under the upper band in front of a stake near the root ends of the grass. Pull this through on the inside until about five inches remain on the outside. Bend the short end over the top and push it down between the stick and the upper band and under the next lower band. Now bring over the long end and insert it in front of the next stake to the right. Pull the weaver through as tight as possible. Repeat this at each stake around the basket.

Hints for binding.—The left hand should hold the basket firmly. With the thumb and forefinger squeeze the stick, grass and top of the basket as tight as possible. The grass should cover the edge neatly. Great care must be taken not to twist the binder, as it will split and break very easily. When the binding is nearly completed cut off the roots of the grass and overlap the ends neatly. The tyings should be pulled out when reached during the binding. Should any strands of the grass give out while binding, lay in new ones as needed, by pushing the end under the grass on the basket. End off the weaver in the same way as it was started. Should the weaver break while binding, fasten the end and make a fresh start as neatly as possible.

Rings.—If staples cannot be procured, rings or braided grass may be used for handles. To make a ring, take the end of a fine weaver between the thumb and first two fingers of the left hand. Wind the weaver four times over the two fingers, with the right hand, keeping one wind over the other. Pass the weaver over and over, closely, all around the coil and pull the end through the last turn. This will hold the binding firmly. With the end which remains, tie the ring to the top of the basket. Make a similar ring for the opposite handle. Finish with any of the knob designs.

MODEL III.

CYLINDRICAL BASKET.

Materials.—12 18-inch stakes 5-16 inches wide, or 10 18-inch stakes ½-inch wide, 6 fine weavers, 16 medium weavers ¼-inch wide, 3 18-inch sticks not more than 3-16-inches in width, small bunch of sweet grass.

Bottom.—Place the twelve stakes in the same manner as the ten described for Model I. Place stake 11 to right of stake 3, and stake 12 to right of stake 6[1]. Weave enough rows to make the bottom three and one-half inches in diameter.

Sides.—Turn up the stakes and weave four rows of fine weaving. Next weave nineteen rows with medium weavers. These must be cut off on each row of weaving. The stakes should be kept vertical. Four rows of fine weaving will complete the basket. Turn down the stakes as in Model I.

Binding.—Bind the top as described in the work basket.

Knobs.—Above the fine weaving at the bottom there are three rows of fancy knobs. Make them as described in the second model. There are also five rows of knobs at the top just below the fine weaving.

Handles.—The handles for this basket are made as large in diameter as the top of the basket. Carefully bend the stick into a good circle, overlap the pointed ends and tie them firmly in place. Start two or three inches back of the join and cover the hoop with grass. Bind over and over with a fine weaver as in the small ring. Conceal the starting end of the binder under the grass and bind over it for several inches. This makes the binding very firm. Attach the handles to the upper row of medium weaver and make the tying loosely enough to allow the handle to move freely.

MODEL IV.

SQUARE BASKET.

Materials.—18 13-inch stakes, 6 broad weavers, 8 fine weavers, 1 light stick 24 inches long, 1 stick 15 inches long for handle. (This should be notched, see Fig. 92.)

Straighten the stakes and arrange them with the rough face uppermost. Interlace nine stakes with nine others to form a square. Make all the ends equidistant from the square. Leave a slight space between the stakes in the square similar to, but not so pronounced as in Fig. 84A.

Pass a weaver over and under the stakes entirely around the square and as close as possible to it. This will hold the square in shape. Turn up all the stakes at right angles to the bottom. Weave three rows of broad weaving and ten rows with two fine weavers. Weave three rows with broad weavers and finish off the top.

Handle.—Insert the handle the same as the staples in the work basket.

Top.—Fit in the stick. Start near one corner and tie in the stick as in the round basket. Bend the stick to a right angle for each corner and tie on both sides of the corner. This stick should rest on the notches of the handle and hold it in place. Bind the top with sweet grass.

MODEL V.

SQUARE BASKET WITH COVER.

Materials.—*Basket,* 14 14-inch stakes, 20 fine weavers, 12 broad weavers, sweet grass. *Cover,* 7 or 8 7-inch stakes, 5 fine weavers, 2 broad weavers, sweet grass.

Fig. 88. Model No. 5.
Fig. 90. Model No. 7.

Fig. 91. Model No. 8.

Fig. 89. Model No. 6.

Arrange the stakes and form the bottom as in Model 4. Turn up the stakes. Weave two rows of broad weaver, six rows of fine, two rows of broad, and eight rows of fine. Finish and bind with grass.

Knobs.—Two rows of knobs are made on the broad bands. They are made similar to those in Model 1 but the knob should be pressed or flattened.

Note.—The tendency in weaving this basket will be to draw in the stakes. Care must be taken each time in turning the corners not to pull the weaver. With the fingers of the left hand, hold the two corner stakes in a perpendicular position to the bottom while weaving over them.

Cover.—Place the seven seven-inch stakes one way to cover the top of the basket. (If these stakes should vary in width from those on the bottom, it may be necessary to add another to the cover to make it fit.) Interlace the stakes at the middle with four eight-inch pieces of the broad weaver. The cover and basket should be four inches square. With a fine weaver, weave over and under the stakes and close to one of the broad weavers. When once across turn the cover and weave back on the under side. Continue thus, turning the cover at each row of weaving. Make all splicings on the under side. When twelve rows of fine weaving are finished, remove the two furthest broad weavers and place them over the twelve rows. This will bring the fine weaving in the center with two rows of broad on either side. Pull the stakes through until these rows are in the center. Now weave fourteen rows of fine on each side. This should complete the weaving of the cover. If it does not cover the top, increase or diminish the number of rows of fine weaving as required. Trim off the broad weavers close to the edge.

The cover should now be bound like the top of the basket. The stakes are to be cut and turned down on two ends. When ready to bind place sweet grass on the top and edge, and cut a broad weaver a little narrow or use a quarter-inch weaver, which should be laid on the under edge to cover the turned-in points. Bind with a fine weaver. On two edges of the cover, holes must be bored at regular intervals along the middle of the stake. This may be done with a fine awl or a coarse needle.

The cover may be attached to the basket in either of two ways. Lay the cover on the basket. Take a long, fine weaver and start at one corner. Insert one end of the weaver from under side of corner in front of the first stake. Insert the other end from inside of basket in front of the corner back stake. Draw both ends through until the ends are even. Cross the ends and insert them in front of the next stakes from the outside. Continue this across the basket like the lacing of a shoe and finish the ends on the inside of the basket. This lacing should be loose enough to allow the cover to be raised easily.

The cover may also be attached by making two hinges near the opposite corners. Pass the weaver through the edges of the cover and basket two or three times in the same hole and knot the ends on the inside of the ring.

Make two rings as described in Model 2, one large enough to pass through the other. Attach them to the middle stake of the front edge of the basket at the top, and to the edge of the cover directly over this.

MODEL VI.

WASTE BASKET.

Materials.—20 32-inch stakes, ½ pound ⅜-inch weavers, 20 fine weavers, 1 heavy stick, 42 inches long, 2 bunches of sweet grass, 3½ yards braided grass (3 or 4 blades to a strand).

Interlace the stakes ten each way to form a seven-inch square for the base. Pass a fine weaver around the square and turn up the stakes. Weave six rows of broad weaver, ten rows of fine, seven rows of broad, six rows of fine and ten rows of broad. This makes a basket ten and one-quarter inches high when completed. Four inches from the bottom begin to make the stakes flare at the corners. The basket is nine inches square at the top.

Knobs.—Make cone-shaped knobs on the fifth and sixth bands of broad weave from the bottom. Make three rows of these knobs on the upper bands of the next broad set, and four rows of knobs on the fifth, sixth, seventh, and eighth rows of the upper set of bands.

Top.—Bind the basket as before described at the top. Make two thick braids of grass each seven and one-half inches long for handles. Fasten the braids on the outside of the basket just above the knobs. Use a piece of fine weaver and tie each end of the braid over twice on a stake, and fasten the weaver on the inside.

Fasten the braided grass in a zigzag manner on the second and third rows of the second set of broad bands. (See Fig. 93.) Attach the braid with a broad weaver in the same way as first kind of knobs were made in Model 1. Draw the weaver tight over the grass. A second twist of braided grass could be applied in the same manner just below the upper knobs if desired.

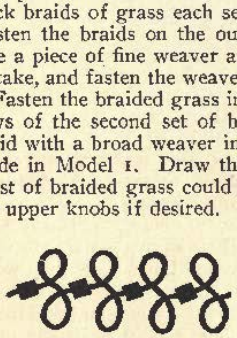


Fig. 93. Zigzag of Braided Grass.

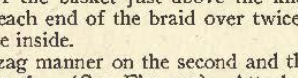


Fig. 95. Shape of Stakes for Model No. 8.

MODEL VII.

HANDKERCHIEF CASE.

Materials.—28 12-inch stakes, 7 5-inch stakes, 20 fine weavers, sweet grass.

Interlace the stakes, fourteen each way, like the bottom of a square basket. Arrange the ends evenly. Weave around the square once.

Now weave on each set of ends as on the square cover, for twenty-two rows of fine weaving. Turn down every other stake on each set of ends. Point the remaining stakes. Insert stake 8 under the weaving on stake 7. Insert stake 6 under the weaving on stake 9. Insert stake 10 under the weaving on stake 5. Insert stake 4 under the weaving on stake 11. Insert stake 12 under the weaving on stake 3. Insert

stake 2 under the weaving on stake 13. Insert stake 14 under the weaving on stake 1. (See Fig. 94.) Repeat this on each set of ends. Pull the stakes down until the two edges formed are brought close together. When the four sides are thus made an open square will be formed at the center. Bind this with sweet grass. Make a cover, which

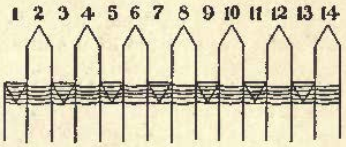


Fig. 94. Method of Inserting Stakes for Model No. 7.

should be large enough to rest on the top of the opening. A small ring attached to the center or to the front edge of the cover is needed to complete this handkerchief case. Finely braided sweet grass is very suitable to use for part of the fine weaving.

MODEL VIII.

TWINE HOLDER.

Materials. Basket, 12 12-inch stakes, 10 fine weavers, 1 14-inch stake for top. *Cover,* 12 9-inch stakes, 4 fine weavers, 4⅓ yards of finely braided grass, 1 14-inch stake, 6 strands of grass.

Cut the twelve stakes to one-eighth inch at the center. (See Fig. 95.) Weave eight rows with a single weaver. The weaving should start one inch from the center. When the eight rows are finished use two weavers. Flare the stakes to shape the basket like an acorn. There are forty-five more rows of fine weaving. It will be necessary to cut the first weaver long ways as it will not come fine enough to weave up to one inch of the center of the stakes. When the basket has been woven about half way up, stop and cut the stakes at the center of the bottom. Point and turn down every other stake as in the top of all round baskets. Cut off the alternate ends. Bind, over and back again, with a fine weaver. This finishes off the hole for the twine to pass through. It is easier to do this before finishing the basket, as it is quite difficult to work from the inside while turning in the stakes.

When ready to bind the top cut the fourteen-inch stake called for in the materials lengthwise. Use one-half inside and the other outside in place of sweet grass.

Cover.—Cut the twelve stakes the same as for the basket. (See Fig. 95.) Weave with a single weaver for sixteen rows. Then weave eleven rows of the braided sweet grass. The stakes must be curved in during the grass weaving to fit the top of the basket. Six rows of fine weaver follow the sweet grass. The cover should fit down over about seven rows of weaving on the basket to give the acorn effect. The cover

must fit snug. Bind the edge with grass and on the inside use one-half lengthwise of the fourteen-inch stiff weaver.

Attach the cover to the basket at the back, and make two small rings with a fine weaver for the front of the cover and the basket.

This basket should be suspended when in use. Therefore two rings about one and one-half inches in diameter must be made and attached on top of the cover on opposite sides. A large hoop (see Fig. 82) three and one-half inches in diameter must now be made. Pass the parts of it through the two small rings on top of the cover. Then bind as in directions for Fig. 82. Care must be taken while weaving the basket that a ball of ordinary twine may be held inside with room to turn easily. This basket is now completed.

DYEING BASKETRY SPLINTS.

To dye well is a difficult art. More letters full of questions come to me upon this subject than any other connected with basketry. Experimental knowledge is the only knowledge worth much of anything in this line. Hence, if you are not prepared to experiment and now and again *fail* as well as *succeed*, don't try to dye anything; go and buy your colored splints. But if you do dye, keep in mind a few principles which I will briefly state.

Don't use aniline dyes.

Teach yourself to love soft tones rather than high colors.

Study every native dyed Indian basket you can and therein you will learn lessons of color.

Experience is the best teacher.

If you want to experiment, go and have a talk with your druggist (or, better still, if there happens to be a dealer in herbs—an old fashioned herbalist—consult him), and find out what dye-woods, barks and vegetable extracts he has, and then experiment with these.

Find your grandmother's old receipe book and get hints from that.

Read what I have written in *How to Make Indian and Other Baskets* and take the hints given there for further experimentation.

Always soak the raffia in cold water for an hour or so before immersing in any mordant or dye.

Never boil dye. Bring it to boiling point and let it gently simmer. Boiling raffia in dye will rot it.

In buying fustic always ask for and be sure you get *old fustic*, not *young fustic*. The former is made from the *Mactura Tinctoria*, a tree growing in the West Indies, the latter from the *Rhus Cotinus*, an entirely different tree.

Rattan or reed takes color quickly, so it need not remain in the dye so long as raffia.

Indian methods of dyeing are somewhat described in *Indian Basketry*.

A number of receipes are in *How to Make Indian and Other Baskets*, and in Miss Mary White's two books, *How to Make Baskets* and *More About Baskets*.

Brown.—If raffia is soaked in water for a week or two it will take

on a light brown shade. Walnut roots and shucks, butternut bark, alder and willow bark, all give satisfactory shades of brown. Take 1 ounce of the extract of logwood to 1 gallon of water. Let it come to the boiling point. Wash the raffia in warm soapsuds and put in the dye while it is wet. Let it remain in the dye until you have the color you wish.

Yellow Brown for Rattan.—"Steep five cents worth of logwood chips in 3 quarts of water about 24 minutes. Strain, and when it is cold lay the coiled rattan in and leave until it is the desired color."

Sometimes two colors can be made at one time and the same mordant used for both. Miss Belle Robinson, who gives the above recipe for yellow, follows with the next for

Dull Purple for Rattan.—"Soak the rattan over night in a solution of 3 ounces alum to a quart of water. Afterward put the rattan in the logwood dye used for brown and leave until it is the shade desired. Color the brown first as after the mordanted rattan is colored in the brown dye, it changes the color of the dye that remains."

Wood Brown.—Boil 2 pounds old fustic and four pounds cam-wood one hour. Wash the raffia in warm soapsuds and rinse well in warm clear water. Soak while wet in the hot dye. If it is too high colored, add 1½ ounces each copperas and alum. That is sufficient to dye 10 pounds raffia.

Black.—Boil logwood chips in water enough to cover them for 15 or 20 minutes. Make a solution of fifty parts of the logwood water and ten parts of fustic. Soak the raffia in this solution for half an hour. Remove the raffia; add to the solution four parts of copperas; return the raffia for fifteen or twenty minutes.

Another Recipe.—"Dissolve one ounce of extract of logwood in two pailfuls of water, and add a piece of copperas the size of a walnut. It takes a longer time to color this than any other color. Wash and rinse thoroughly after dyeing, otherwise it will crack."

Blue.—Let 2½ pounds of copperas dissolve in 15 gallons of water. Put in this solution 10 pounds of raffia and allow it to *simmer* for 2 hours; take out, rinse in cold water.

Now, make new solution, about same amount water with half a pound prussiate of potash. Plunge raffia in this solution and let simmer for three-quarters of an hour. Remove raffia and slowly add to the solution half a pound oil of vitriol. Return raffia, simmer three quarters of an hour longer, then rinse thoroughly in clear water.

Bottle Green.—To 10 gallons of water add 1½ ounces chrome, 3 ounces alum. In another vessel have ready a boiling solution of 3 pounds of fustic and 1½ pounds of logwood to about same amount of water. First dip the raffia in first solution (the mordant) and thoroughly wet it, allowing it to soak for a few minutes. Now remove and soak in the second liquid until the desired color is obtained.

Yellow No. 1.—First mordant by soaking raffia in solution of 4 ounces alum to 2 gallons of water. Soak for 2 hours. Then place

about 2 pailfuls of golden rod blossoms (*Solidago Virga-aurea*), which should be gathered in October or November, in a bright tin wash-boiler, cover with cold water and bring to a boil. Boil for fully twenty minutes. Then place raffia (already mordanted) in the solution and let simmer until color required is obtained.

No. 2.—Gather same amount St. John's root (*Hypiricum Perforatum*), stems, leaves and flowers are all good; treat as in the foregoing.

No. 3.—Soak raffia all night in mordant, as in No. 1. Dilute one ounce of extract of fustic in two pailfuls hot water. Drain the mordant well from the raffia, put into hot dye, simmer, stir until required shade is obtained.

No. 4.—Mordant as No. 3. Boil 6 handfuls onion skins in two gallons or less of water; strain and allow to simmer. Take raffia from mordant, drain, place in simmering liquid, stir until color is as desired.

No. 5.—Mordant as before. Boil one ounce saffron to a gallon of water. Treat as No. 4.

Orange.—Mordant as in No. 3. Dilute one ounce of extract of fustic in two pailfuls hot water; add a little cochineal (experience will best tell how much), and treat as in No. 3.

Red.—A little experimenting with cochineal mordanting as in Yellow No. 1 will give interesting results in red.

Madder.—A member of the Basket Fraternity sends the following recipe, which she says is excellent: Eight oz. madder; 3 oz. alum; 1 oz. cream of tartar to one lb. Dissolve alum and cream of tartar and bring to a boil. Soak the material to be dyed for two hours in the solution thus made. Then rinse well in cold water. Dissolve the madder in clear warm water; then heat to scalding temperature; put in materials and allow to remain until the required shade of madder is obtained.

MODEL INDIAN BASKET DESIGNS.

These are twenty in number, especially drawn from model Indian baskets in George Wharton James's Collection. The full set of twenty designs is sent post free for $2.00, or they may be purchased singly for 15 cents each, two for 25 cents. These must be ordered direct from George Wharton James, 1098 N. Raymond Avenue, Pasadena, Calif.

No. 1. Mono Burial Basket.—This basket is fully described in the July, 1903, BASKET, pages 21, 22, 23. It is 20 inches across the top, 8 inches across the bottom, is bowl shaped, and stands 12 inches high. It was so large that it was impracticable to make the cut full size, so the engraver reduced the plate exactly one half. The weaver, therefore, who desire to reproduce it, same size as the original must make it double the size. Fig. 1 shows the basket when seen sidewise, and

Fig. 2 is the view when looking down into the bowl. It will be observed that only one-third of the design is shown in Fig. 2. The two other sections consist of exactly the same design. The color scheme is as follows: Body in natural creamy white; two outer of the three upright poles, black, as is also the part around the diamonds; the middle poles, the diamonds and the three men are of the dark red of the redbud. The steps near the bottom are black. To enjoy making this basket the weaver should read its history and learn the full meaning of the design.

No. 2. Alaska Treasure Basket with Cover.—This is a round basket, with perpendicular sides, same diameter at top as at the bottom. The lid is a trifle larger than the basket, in order to allow the flange to fit over the sides of the basket. It is 9 inches in diameter and 3¾ inches high. The Indian weave is that described in "How to Make Indian and Other Baskets," pages 130 and 131, but it can be made in very fine figure 8 or lazy stitch if desired. The colors are indicated by the shading. The black and white are plainly shown. The color shaded to the left is a light red, while that shaded to the right is a brownish shade.

No. 3. Palatingwa Milk-pan Basket.—This is in two colors; the black in the design is the brown of the tule root; the white is the natular color of the willow splint. This may be made in any of the coil weaves—figure 8, lazy, Hopi, or Havasupai. The size is exactly the same as the diagram, viz., 2½ inches high and 14¾ inches in diameter.

No. 4. Fine Yokut Bottle-neck Basket.—This is in three colors, black and natural, the latter shown by the white, and red of the redbud where shaded. The feathers are quail plumes and are inserted during the weaving. The basket is 4 inches in diameter at the bottom, beautifully rounded when shaped up for the sides, enlarging to 24 inches in circumference and then gradually decreasing in size until the mouth is 3¾ inches in diameter.

No. 5. Thompson River Carrying Basket.—This figure is half the size of the original basket, which is a small Thompson River carrying basket. The design is made of the Klikitat imbricated work, fully explained on page 133, "How to Make Indian and Other Baskets." The white weaver, however, can imitate the design without the use of this stitch. The original basket has an almost square bottom, 5¼ inches across one way and 4 inches the other. This proportion is not quite observed all the way up, for at the top the widths are respectively 15 inches and 13 inches. The basket is 10 inches high.

The design is the same on the ends as on the sides, except that there are two rows of diamonds only at the ends, while there are three on the sides. The body of the basket is the native color shown by upright lines of the figure. The design is in white, black and red, the red being designated (in the design only) by the shaded lines from left to right.

No. 6. Poma Shi-Bu Basket.—This beautiful, ornamental Shi-bu Poma is worthy the best endeavors of the white weaver. It is a perfect specimen of the art. The features are the tiny plumes of the red-headed woodpecker. The round disks are the wampum, made of white

pieces of shell. The basket is oval in shape (see instructions how to make the oval base in "Practical Basket-Making" and "How to Make Indian and Other Baskets"). The design is in black and white. The illustration is exact size, the length of the basket being 5½ inches and the width across the top 4 inches.

No. 7. Apache Water Olla.—It can well be understood that, to hold water, this must be a firmly woven piece of basket work. It is in white, black, and reddish brown, the horse only being in the latter color. It was made in the Havasupai weave, but can be imitated in any of the coil weaves desired. The bottom is 6 inches in diameter, the top 8 inches. It is a trifle over 31½ inches in circumference at its largest part and then decreases in the neck until it is but 24 inches in diameter at the mouth.

No. 8. Pima Swastika Design Basket.—This is one of the commonest of all Pima shapes and designs. From Fig. 1 it will be observed that the bowl is narrow at bottom and widens rapidly to an exceedingly wide top. The bottom is but 3½ inches in diameter, while the top is 14¼ inches in diameter. The colors are white and black, both being natural colors, the one of the willow, the other of the martynia.

No. 9. Pima Greek Fret Design Basket.—This is a bowl shaped basket with a circular base 3¼ inches in diameter. At the top it is 16 inches in diameter, and being but 6 inches deep, the bowl flares rapidly. The colors are white and black, the former the natural willow splint and the latter the *larga,* or black of the martynia.

No. 10. Yokut Bottle-neck Basket.—This is a beautiful basket in white, black and red. The white and black are indicated in the design, the red is shaded. Any other colored weavers may be substituted for these, but the wise weaver will keep as near to the simple, artistic and true color conceptions of the Indian weaver as possible. This is a bottle-necked basket without a neck. That is, the flange or shoulder of the basket terminates without any upright continuation, just as shown in the design; yet it is beautiful and perfect. The ornamentation around the edge where the sides and flange or shoulder meet is red wool and quail plumes. The white weaver may substitute what she chooses for these, or leave them out entirely. The bottom of the basket is 3½ inches across and consists of thirteen coils. It then gradually bellies to its top which is 33 inches in circumference. The shoulder is 2¾ inches wide, and the aperture at top is 6 inches across, thus making the complete diameter of the top 33 inches.

No. 11. Ramona's Star Basket.—Perhaps no basket ever made in the history of the world has excited as much profound interest as has this simple but beautiful basket. Its full history is given in "Indian Basketry," pages 220, 221, 222, and "the Philistine" for November, 1903. It is an almost flat plaque, but has a side about ¼ of an inch high, shown where the three coils are shaded close together, and then a top flange consisting of four coils of weaving. The shape will better be understood from the profile view of Fig. 2. The colors are the natural white of the willow and the brown root of the tule. It is 12½ inches in diameter, inside measure, and 14½ inches outside measure.

No. 12. *Mono Rattlesnake Design Basket.*

The basket is 6¼ inches high, 6¼ inches across the bottom, and 12½ inches across the top. Its shape, therefore, is a perfect one. After the center coil of the bottom is started there are twenty-two coils before the upward turn is made for the sides. Twelve more coils bring the weaver to the lower band of the design. On both bands the inner part of the diamonds are woven in the red of the red bud; the diamond itself is composed of two ordinary white splints, and the fill-up is in black. The body of the basket is in the creamy white of the willow. Between the lower and upper band there are eighteen coils, and three coils above the upper band.

In making the diamonds it may be well to know that on the first coil the stitches are divided as follows, ten black, two white; second coil, eight black, four white; third coil, six black, two white, two red, two white; fourth coil, four black, two white, four red, two white; fifth coil, two black, two white, six red, two white; sixth coil, two white, eight red, two white. It now diminishes in the same proportion, taking the same stitches as the fifth, fourth, third, etc., in reverse order.

This is not a difficult basket to make, and it is hoped that many will find the large design and the descriptions helpful.

No. 13. *Shoshone Chief's Basket.*—This dainty and beautiful basket is 2¾ inches across the bottom, which is plain weaving without design, and consists of nine coils. Then it gradually "bellies" out until 4 inches high, when its circumference is 23½ inches, after which it rapidly slopes to the neck, which is 4½ inches in diameter at the top and 14½ inches in circumference. The body of the basket is in white. The small design around the neck is in black. The black part of the design throughout is the same as in the basket, viz., black. The shaded parts of the design are of redbud, and the weaver may make use of a dull reddish brown, or any color she may desire that is harmonious. There are two illustrations for this basket, Figs. 1 and 2. Fig. 1 shows one side and Fig. 2 the other. A little thought will make clear how to connect the two parts.

No. 14. *Palatingwa Loving Bird Basket.*—This basket is a fine specimen of the Palatingwa imitative art; leaves at the bottom, with the loving birds at the four openings. The basket is slightly oval, as shown in the larger design. The oval bottom is made as is fully explained in "How to Make Indian and Other Baskets" and "Practical Basket Weaving." The basket is in two colors, white and the brown of the tule root. In weaving any color may be substituted for the brown, which is printed in the design. The large figure is drawn looking upon the basket from the bottom, hence the birds are foreshortened. The smaller figure gives a more correct outline of the love birds. The white oval of the bottom is 3½ inches long, and the basket stands 4 inches high. It is 15 inches across at its longer axis and 13½ at its shorter. The border is of white and brown splints alternated.

No. 15. *Palatingwa Oblong Basket.*—This basket is of unusual and yet very useful shape, and is therefore given as a suggestion to white weavers. It is most useful to place on a desk for pens or pencils, etc.,

and if the size is altered the general idea suggests how a basket may be made to hold loose papers, etc.

It is in three colors, black, white and the brown of the tule root. It is a parallelogram, 9¼ inches long and 4¼ inches wide. The sides and ends are perpendicular, so that it is as high at the top as at the bottom.

No. 16. *Ancient Chuc-Chan-ce Basket.*—This is one of the most interesting old baskets in my collection. I secured it from the great great granddaughter of its maker, and it shows clearly the steps of her Sierra Nevada mountain home, with the streams of water flowing down between them, and the many quails present, indicated by the quail plume extending from every step. The basket is in two colors, black and natural white, and is of the Havasupai coil weave. It is 4½ inches across the bottom, 10 inches across the top, and 4¼ inches high.

No. 17. *Havasupai Plaque.*—As its name implies this is an almost flat plaque or plate, though it is very slightly rounded as all the plaques of this tribe are. It is an easy design to copy in natural black and white, and is exceedingly decorative. The size is exact, viz., 16 inches in diameter. The edge is finished off with the herring-bone stitch, described in "Practical Basket Making."

No. 18. *Palatingwa Oval Basket.*—This is a beautifully shaped basket, and very attractive in color and design. The colors are all natural, viz., the black of the martynia, the brown of the tule root, and the white of the willow. The oval base is 9½ inches long and four inches wide. At the top the long axis is 18 inches, and the short one 14 inches. It will be seen, therefore, that the sides widen out a little as they approach the top. The weave is the Havasupai, with a soft coil made of fine stems.

No. 19. *Mesa Grande Basket.*—This is an attractive circular basket, 4½ inches high, 6¼ inches across the bottom, 7¼ inches across the top, and bellied out about an inch from the bottom. It is in black, brown of the tule root, and white, as indicated.

No. 20. *Hoopa Carrying Basket.*—This design is half the natural size. The color is white and the design a light grayish brown. It is a fine shape for a waste basket. The shaded part of the illustrataion at the bottom is made by alternate weavers of brown and white. The black of the illustration in the circular lines and the design is the brown of the basket. The original is 5½ inches across the bottom and 15½ inches across the top. The height is 14½ inches.

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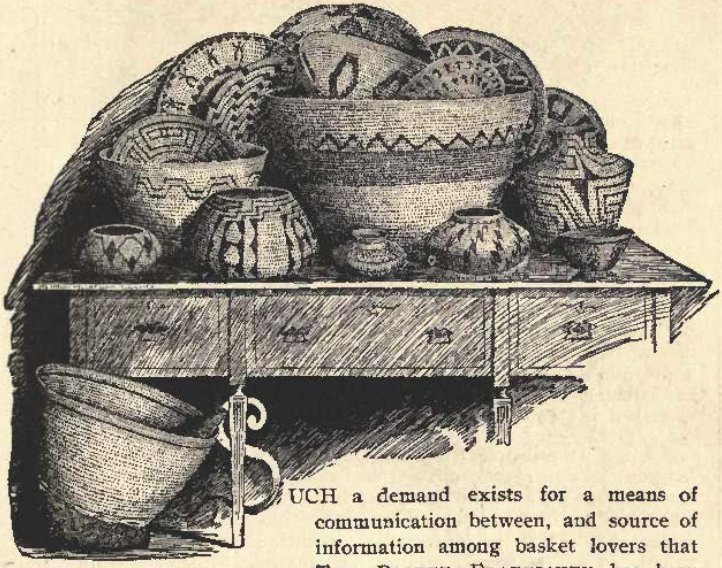

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